2019
산업안전보건
강조주간

사고사망 감소를 위한

# 안전보건 전문가 역량강화 국제세미나

International Seminar on OSH Professionals' Competence

2019. 7. 3.(수) 14:00~17:00

안전보건공단
국제협력센터·산업안전보건교육원

고용노동부

산업재해예방
안전보건공단

# 한글자료

# 목 차


[ 좌장 및 발표자 & 일정계획 ] 6

01 독일 IAG OSH 교육 프로그램: 강점과 계획 7
- 율리케 불만 실장 (독일)

02 영국산업안전보건협회 산업안전보건 교육프로그램: 강점과 전략 33
- 알란 스티븐스 실장 (영국)

03 싱가포르 WSH 교육 프로그램 47
- 사일러스 승 국장 (싱가포르)

04 한국산업안전보건공단 교육원 교육 프로그램 55
- 배영복 실장 (한국)

# [ 좌장 및 발표자 & 일정계획 ]

## ㅇ 좌장 및 발표자

| 구분 | 좌장 및 발표자 | | |
|---|---|---|---|
| | 성명 | 직책 | 소속 |
| 좌장 | 신인재 | 원장 | 공단 교육원 |
| 독일 | 율리케 불만 | 실장 | 독일재해보험조합 (DGUV) |
| 영국 | 알란 스티븐스 | 실장 | 영국산업안전보건협회 (IOSH) |
| 싱가포르 | 사일러스 승 | 국장 | 싱가포르 인력부 (MoM) |
| 한국 | 배영복 | 실장 | 공단 교육원 |

## ㅇ 일정계획

| 시간 | | 내용 | 비고 |
|---|---|---|---|
| 14:00~14:02 | 2분 | • 개회 | 권종규 국제협력센터소장 |
| 14:02~14:10 | 8분 | • 세미나 운영방법 및 연사 소개 | 좌장 |
| 14:10~14:40 | 30분 | • 율리케 불만 실장: 독일 IAG의 교육 프로그램 | 각 국 안전보건 전문가 교육 프로그램<br>- 주요 구성내용 재해(특히, 사망사고) 예방을 위한 중점 구성내용<br>- 강점<br>- 재해(사망재해) 예방 효과 연계성 |
| 14:40~15:10 | 30분 | • 알란 스티븐스 실장: 영국 IOSH의 교육 프로그램 | |
| 15:10~15:40 | 30분 | • 사일러스 승 국장: 싱가포르 교육 프로그램 | |
| 15:40~16:10 | 30분 | • 배영복 실장: 공단 교육 프로그램 | |
| 16:10~16:30 | 20분 | • 종합토론 | 청중 질의응답 포함 |
| 16:30~16:40 | 10분 | • 정리 | 좌장 |
| 16:40~17:00 | 20분 | • 폐회 및 기념촬영 | |

01

# 독일 IAG OSH 교육 프로그램: 강점과 계획

## OSH 전문가 역량 강화로 독일에서 사망률 감소

율리케 불만 실장
(독일재해보험조합)

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

# 독일 IAG OSH 교육 프로그램: 강점과 계획

OSH 전문가 역량 강화로
독일에서 사망률 감소

Dr Ulrike Bollmann (울리케 볼만)
52회 산업안전보건 (OSH) 강조주간
2019년 7월 3일, 대한민국 서울 코엑스

DGUV

## DGUV 사실과 수치

## IAG OSH 교육 프로그램

## 안전 전문가 훈련

## IAG 교육의 강점과 계획

DGUV

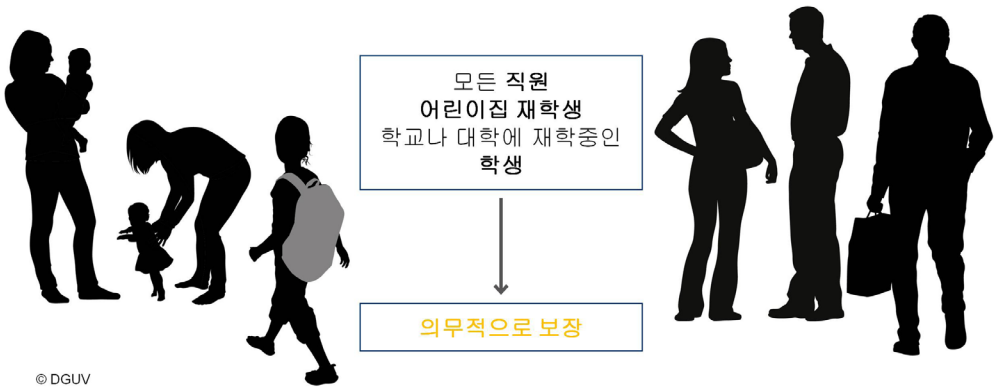
## 법정재해 보험 제도

© DGUV

Bollmann, IAG Training 03.07.2019 Seite 3

DGUV

## 독일 법정재해기구의 보장 대상




© DGUV

Bollmann, IAG Training 03.07.2019 4

DGUV

## 독일 법정재해보험기구의 보장 대상

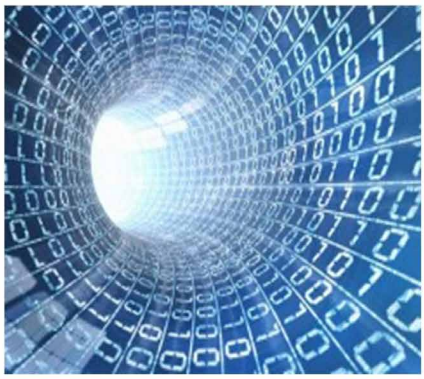
산업재해

출퇴근사고

직업병

DGUV

## DGUV의 OSH 교육



© alphaspirit, fotolia.com

연간 **34**만 명의 참가자

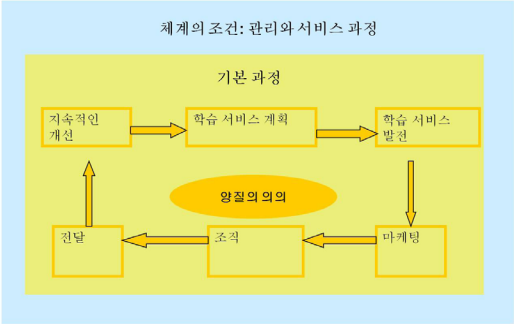
**2**만 개의 세미나

- DGUV - 독일 최대의 성인 교육 기관 중 하나
- 독일에서의 높은 수준의 직업 안전과 보건의 기초를 형성

DGUV

## OSH 교육의 품질 체계

교육 품질 모델




© DGUV

**DGUV 내 모든 훈련 기관에 적용되는 품질 체계**

기준

- 교육의 기본 요소: 프로그램, 마케팅, 조직
- 기본 조건: 관리와 서비스

➢ **지속적인 개선**

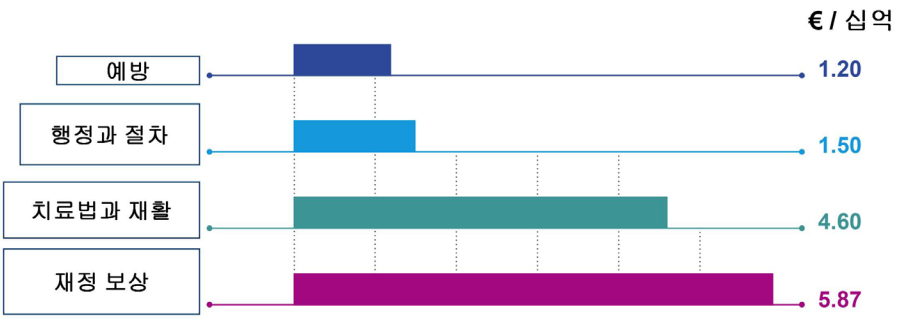


DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

## 통계

DGUV

## 2017년 독일 법정재해보험기구의 지출

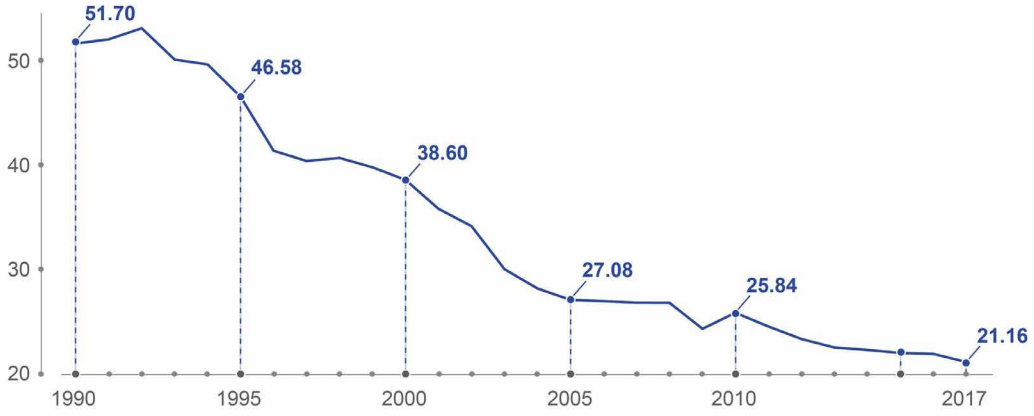





DGUV

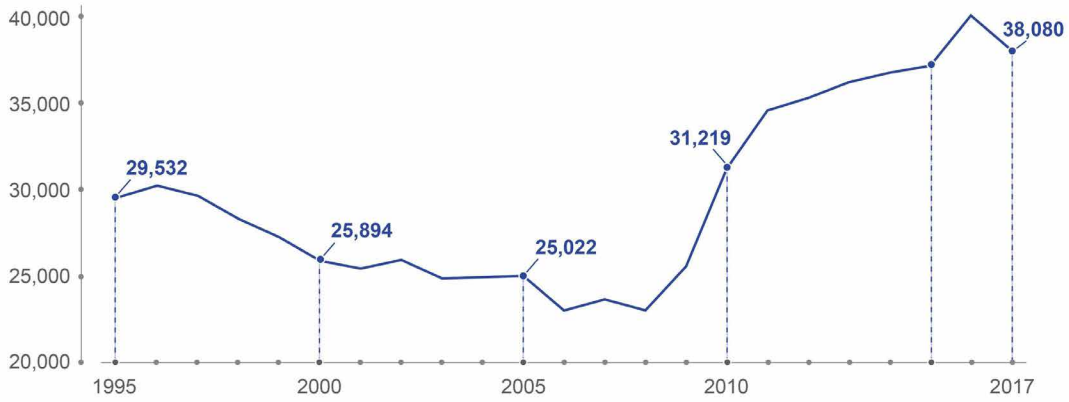
## 보고된 산업재해

정규직 직원 **1000**명당



DGUV

## 확인된 직업병 사례

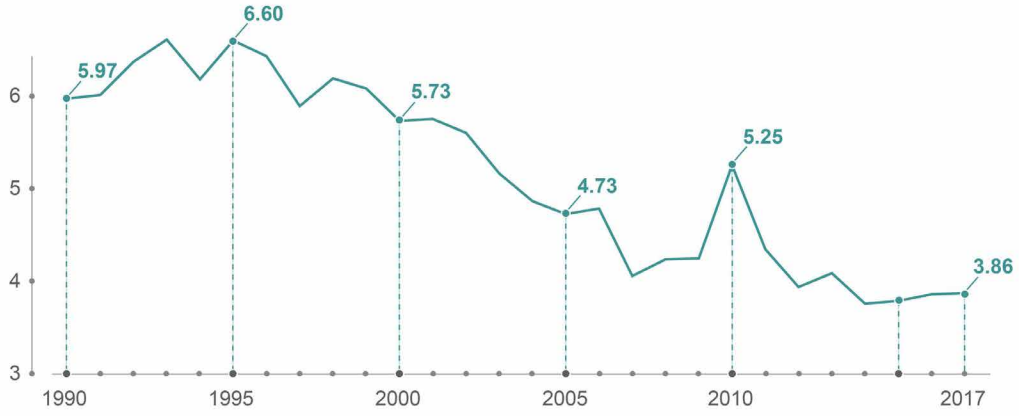



Bollmann, IAG Training 03.07.2019 Seite 11

DGUV

## 보고된 출퇴근 사고

정규직 위주의 보험 관계 **1000**개 당

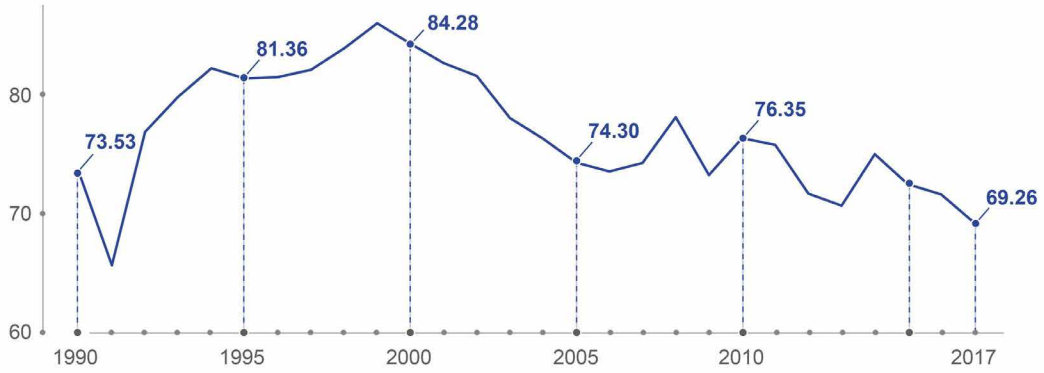



Bollmann, IAG Training 03.07.2019 Seite 12

DGUV

## 보고된 학교내 사고

학생 1000명당

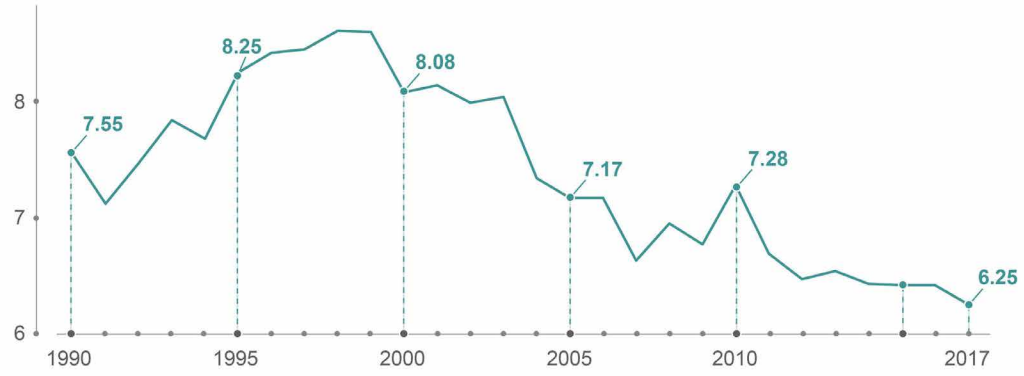





DGUV

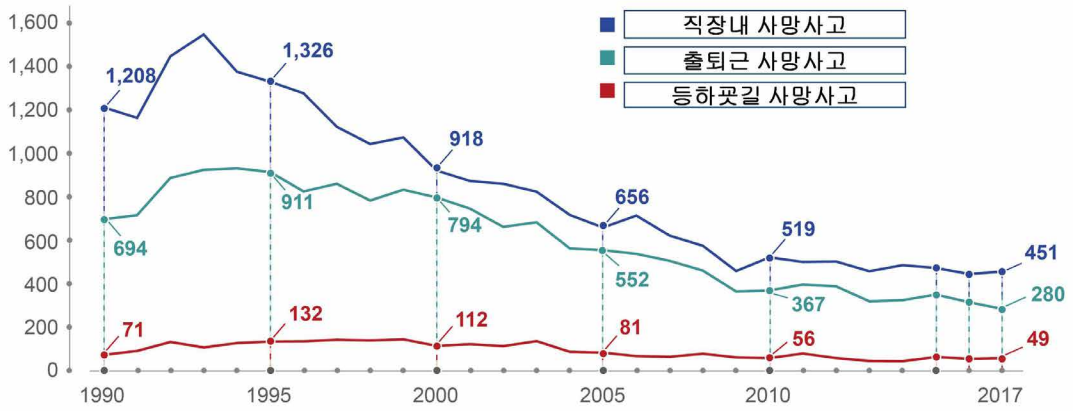
## 보고된 등하굣길 사고

학생 1000명당



DGUV

## 사망 사고




Bollmann, IAG Training 03.07.2019 Seite 15

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

# IAG OSH 교육 프로그램

DGUV

## DGUV 연구원

직업병예방연구원– IPA
보훔

노동보건연구원– IAG
드레스덴

안전보건연구원– IFA
장크트 아우구스틴

DGUV

## 수치로 본 IAG 교육 (2018)

- 직원수
  약 **100**
- 참여일수
  **49.221**
- IAG 세미나
  **411**
- 행사
  **256**
- 실용 시설
  **20**

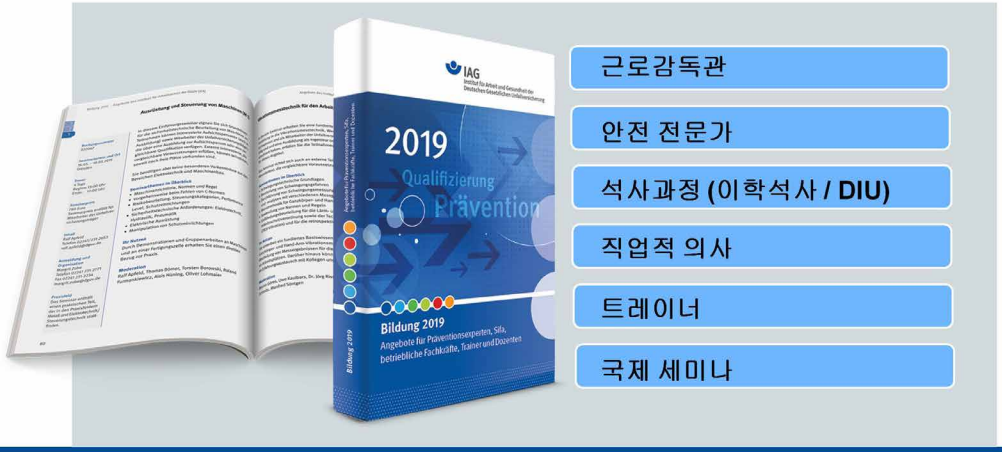
MARTIN

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

# IAG의 대상 그룹

DGUV

## IAG가 교육하는 대상




- 근로감독관
- 안전 전문가
- 석사과정 (이학석사 / DIU)
- 직업적 의사
- 트레이너
- 국제 세미나

Bollmann, IAG Training 03.07.2019 24

DGUV

## 인상: 교육과 이벤트

Bollmann, IAG Training 03.07.2019 25

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

## 중점: 안전 전문가 훈련

DGUV

## 유럽연합의 안전 전문가

**1989년 6월 12일자**

**경제 공동체 지령 89/391/EEC**

작업자의 안전과 건강 개선을 촉진하기 위한 조치의 도입에 관하여 (89/391/EEC):

"**사업주**는 사업 및/또는 기관에 대한 직업상 위험의 보호 및 예방과 관련된 활동을 수행할 한 명 이상의 근로자를 지정해야 한다." (제7장)

Bollmann, IAG Training 03.07.2019 Seite 27

DGUV

## 독일 안전 전문가 – 법적 근거

✓ 산업안전법(ASiG)

✓ DGUV 규정 2

모든 고용주는 서면으로 임명해야함

- 직업적 의사
- 안전 전문가

(가능함: 외부 서비스)

Bollmann, IAG Training 03.07.2019 28

DGUV

## 안전 전문가 – 임무

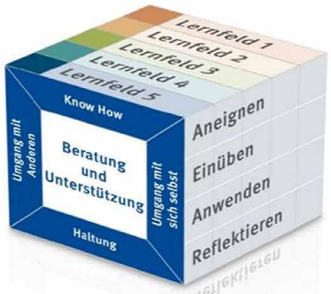
© Trueffelpix – Fotolia.com

회사 차원에서 산업 안전과 보건을 책임지는 고용주 및 기타 관계자를 지원



DGUV

## 안전 전문가를 위한 교육: 오랜 과정




의무적; 전국적으로 단일화
1979년부터 존재
2001 새 모델
2009 – 2011 콘텐츠 수정
2017 – 2018 새로운 역량 프로필 개발
2018 – 2019 시범 운영
2021년까지 전국에 도입

연간 참가자 340명(IAG)

Sifa Fachkraft für Arbeitssicherheit DGUV Deutsche Gesetzliche Unfallversicherung Spitzenverband baua: Bundesanstalt für Arbeitsschutz und Arbeitsmedizin

DGUV

## 안전 전문가를 위한 교육: 유도 질문

참가자는 어떻게 해야 자신의 역할과 요건에 따라 안전 전문가로서 **활동할 수 있고**, 이를 성공적으로 수행하기 위해서는 어떻게 필요한 역량을 습득하는가? (BAuA 2017)



DGUV

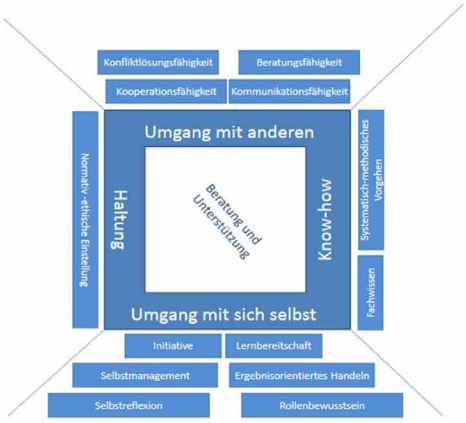
## 안전 전문가 훈련을 위한 가이드라인

1. 역량개발에 따른 교육
2. 자기 책임 학습에 집중
3. 직업 관련 접근
4. 능동 학습자 지향 학습을 지원하는 방법과 미디어 선택

(DGUV 2011)

DGUV

## 역량




DGUV 규정 2의 작업을 분석

⇨ **4 역량 영역; 13 기초 역량**

역량 영역:

- 노하우
- 타인을 상대하는 법
- 자신을 상대하는 법
- 스탠스 / 태도



DGUV

## 역량 프로필

**자신을 상대하는 법**
계획
배우고자 하는 의지
자기관리
자아성찰
성과지향적 행동
역할인식

**노하우**
(다음 슬라이드)

**타인을 상대하는 법**
분쟁 조정 능력
소통 능력
협조에 재능
컨설팅에 재능

**스탠스**
인간적, 도덕적 태도

DGUV

## 역량 프로필: 노하우

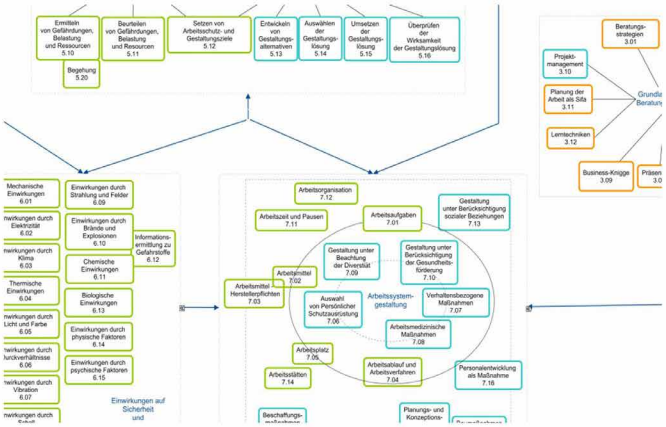
**체계적, 방법론적 접근법**
분석 능력
좋은 판단력
개념적 강점
문제 해결 능력
종합적 사고
전문가급 지식
지식 지향
다분야에 걸친 지식

- 전문가보다는 다재다능형
- 위험뿐만이 아닌 자원도 인지
- 근로 환경을 종합적으로 분석
- 최신 지식을 바탕으로 행동
- …

Bollmann, IAG Training 03.07.2019 35

DGUV

## 기초 지식 모듈



자기주도 지식 습득을
위한 모듈 약 100개

Bollmann, IAG Training 03.07.2019 Seite 36

DGUV

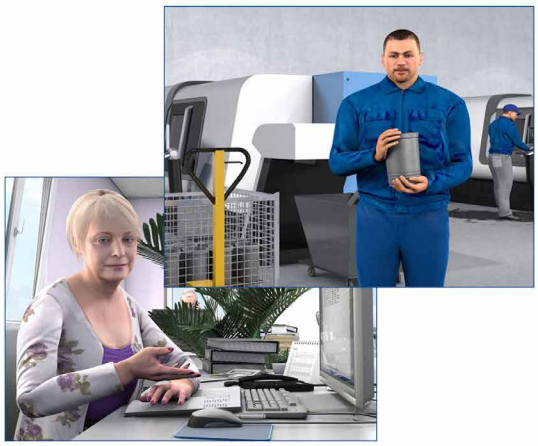
## 대상 분야: 시스템적 접근

1. 교육 소개; 안전 전문가의 임무
2. 작업 시스템과 운영 조직
3. 근로 조건의 평가
4. 작업 시스템의 디자인과 계획
5. OSH를 회사 구조와 프로세스에 통합



DGUV

## 사례: 가상의 금속가공 회사 – 주제



*여러 분야에서의 **실제 작업 상황**.*

- 제작 – 운송 – 청소 –
- 개방형 사무실 – 조경
- 조립 작업 – 도로 안전

***세미나에서의** 작업 시뮬레이션*

***SOL:*** 사내에서 작업 수행, 안전 전문가 학습 과정에 반영: 블로그 및 설문 조사 학습

DGUV

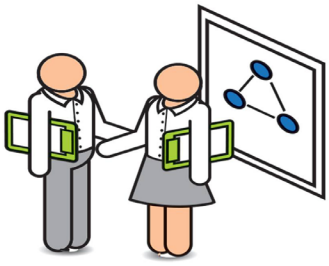
## 안전 전문가 교육 3.0: 학습의 세계

다른 학습 공간과 융합:
- 세미나
- 디지털 플랫폼식 수업
- 인턴십



DGUV

## 학습자의 역할



**학습자:**
- 자기감독과 자기책임을 배움
- 협조하고 자아를 성찰하면서 배움
- 자신의 방식대로 실행해 반영함

DGUV

## 학습촉진자의 역할

강사가 아닌 학습촉진자:

- 필요한 것을 인지
- 관찰과 지원
- 피드백 제공
- 개인적 상담 가능



DGUV

## IAG OSH 교육 프로그램의 강점

- **실증 조사에 근거**, 예) 안전 전무가에 대한 종적 연구 (Trimpop 2011); 안전 전문가에 대한 분석 요구 (BAuA 2017)
- **최근의 교육 결과에 근거**, 예) 체계-구조론적 교수법(Arnold 2012, 2018)
- **역량 (능력) 중심**, 예) 안전 전문가는 행동과 존재에 동기를 부여
- **거시적 접근**, 예) 안전 전문가는 기계적, 물리적, 심리적 요인을 고려하여 작업 환경을 전체적으로 평가
- **시스템적 접근**, 예) 안전 전문가는 조직의 시스템과 프로세스에 안전과 보건을 융합하고, 회사 내 예방 문화를 분석 및 지원

DGUV

## OSH 교육 프로그램의 계획: 유도 질문

우리는 미래에 직업을 가질 것인가?

Bollmann, IAG Training 03.07.2019 43

DGUV

## DGUV OSH 교육 프로그램의 계획

**공통목표:**
예방 문화의 형성에 근거한 Vision Zero

아래의 접근법으로 추진:

**포괄적 접근**: 안전과 보건

**다분야적 접근**: 안전 및 보건 전문가, 직업적 의사, 직업적 위생사, 심리학자, 교육학자

**평생교육적 접근**: 모든 수준의 교육과 훈련

**인간중심적 접근**: 사람들이 조직 내에서 변화할 수 있도록 동기를 부여

Bollmann, IAG Training 03.07.2019 44

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

감사합니다!

02

# 영국산업안전보건협회 산업안전보건 교육프로그램: 강점과 전략

알란 스티븐스 실장
(영국 산업안전보건협회)

산업
안전보건
협회

# 영국산업안전보건협회 산업안전보건 교육프로그램: 강점과 전략

알란 스티븐스
국제교류협력 실장

## 산업안전보건협회는 어떤 기관인가?

**전문 기구**
칙령서에 따라 설립된 공공
목적의 왕립 비영리 기구

**사상적 선도자**
산업안전보건 관련 연구,
전문지식을 갖춘 지식 기관

**회원 조직**
전세계 130개국에 걸쳐
47,500명의 회원들이 가입되어
있는 글로벌 조직

**촉진자**
전세계 산업안전보건 관련
기관의 업무를 지원하는 조력자

# 산업안전보건협회 – 우리의 신념

## 비전

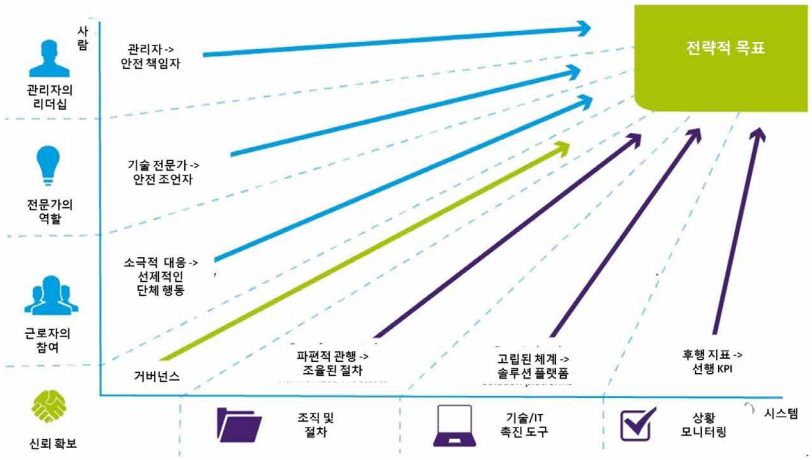
안전하고 건강한 노동 세계

## 6대 중점 분야

## 전략

# 현실의 과제

## 기관들은 어떻게 대응하고 있는가?

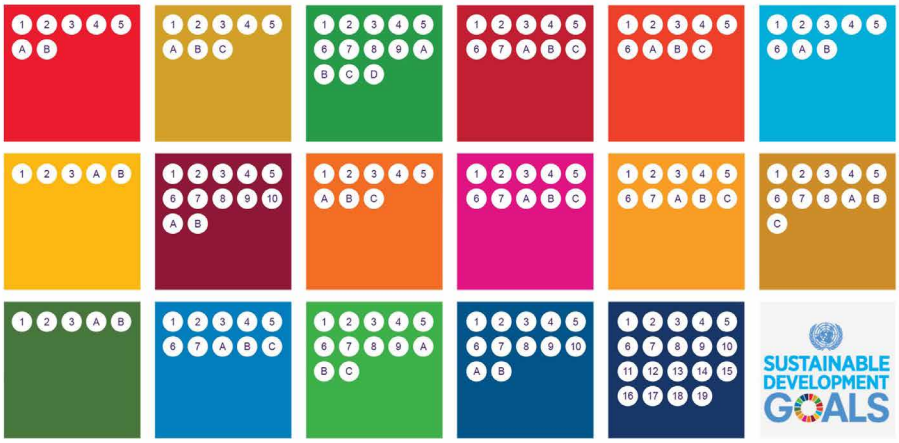


# UN 지속가능한 개발 목표

## 17개 목표

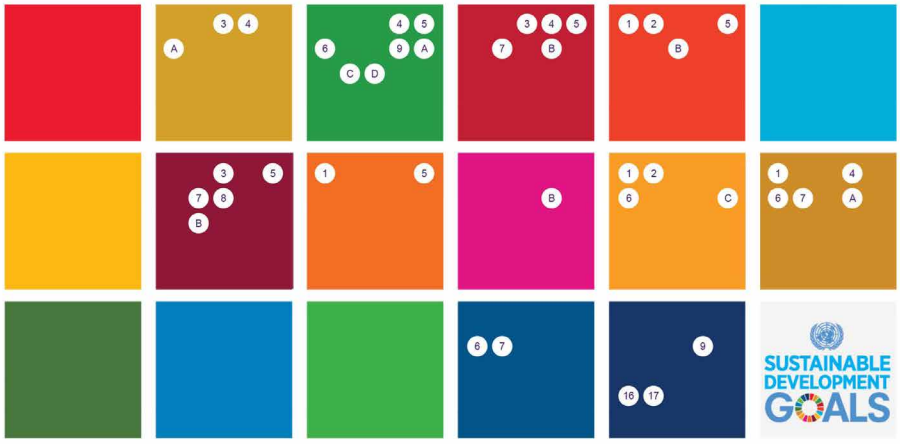
# UN 지속가능한 개발 목표

## 165개 분야 별 목표



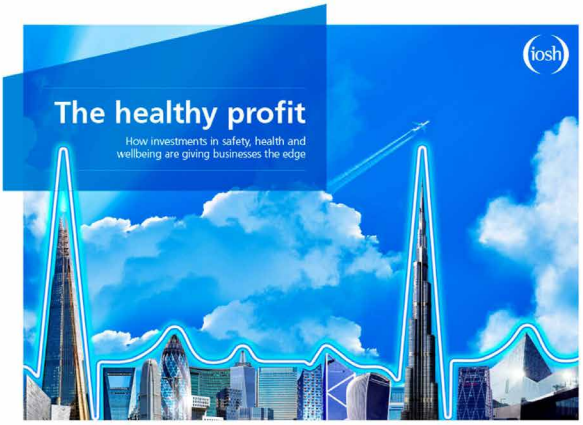
# UN 지속가능한 개발 목표

## 41개의 산업안전보건과 직접적으로 관련된 분야별 목표




# 건강한 수익

## 기업에 대한 행동 촉구




- 미래를 내다보는 조직에 의한 선제적 투자를 강조하는 보고서
- 산업안전보건협회가 의뢰한 조사 결과 아직 장벽이 존재하는 기업이 많음
- 근로자의 안전 및 보건에 대한 투자는 핵심 전략 목표가 되어야 함
- 산업안전보건 성과에 대한 개방적이고 투명한 보고

## 훈련 및 기술 개발 과정

## 능력, 자신감, 생산성

### 성공을 위한 준비된 기업

- 효과적으로 업무를 수행할 수 있는 능력과 자신감을 갖춘 관리자
- 보다 건강하고 생산적인 사업장
- 조직 전반에 걸쳐 뿌리 내린 안전보건 문화
- 공급망, 고객, 그 밖의 관계당사자 사이의 평판 개선

## 산업안전보건협회 과정

- 안전보건 전문가의 역할 지원
- 국제 표준에 근거한 교육 과정
- 모든 국가에 적용할 수 있는 '일반 원칙 ' 중심
- 조직, 문화, 법률 관련 컨텐츠 추가 가능
- 단순한 '사고 사례'가 아닌 안전보건이 조직에 미치는 긍정적인 영향 중심 교육
- 기업과 개인의 경쟁력 강화에 초점을 맞춘 교육

## 산업안전보건협회 솔루션

훈련 및 기술 개발

경영진 교육

# 산업안전보건협회 안전한 경영

## 목적 – 경영인 지원:

- ✓ 산업안전보건의 전략적 가치에 대한 이해
- ✓ 선도적 글로벌 조직을 통해 배우는 우수 사례
- ✓ 다른 기업 대비 안전보건 실태 파악 및 개선 목표 수립, 실천
- ✓ 경영상의 책임, 성과 개선을 위한 기회, 실패 시 감당해야 할 결과에 대한 이해

# 안전 대응 모델

| 기초적 대응 | 소극적 대응 | 선제적 대응 | 통합적 대응 |
|---|---|---|---|
| • 본능에 의존한 안전 대응<br>• 오직 법규 준수만을 목적으로 함<br>• 사고 또는 문제가 발생한 이후에야 대책 강구, 조사, 검토<br>• 벌금 부과에 대한 우려를 자주 함<br>• 기초적인 수준의 안전 관리 체계 및 절차<br>• 임기응변식 산업안전보건 전문가 참여<br>• 산업안전보건 관련 비즈니스 위험에 대한 이해 부족<br>• 임기응변식 근로자 산업안전보건 교육<br>• 경영진이 사고 또는 문제 발생 이후에야 행동에 나섬 | • 규정 준수가 주된 목표이고 목표를 달성함<br>• 경영진이 산업안전보건을 위한 노력을 기울임<br>• 산업안전보건 통제 및 규정 이행을 위한 체계 구축<br>• 체계, 규칙, 절차를 시행, 집행, 준수함.<br>• 산업안전보건을 전담하는 안전 관리자 채용<br>• 작업 안전이 고용 조건에 포함됨<br>• 안전 체계 내에서 작업을 하기 위한 훈련 실시<br>• 안전을 감찰 활동으로 인식<br>• 모든 위험에 동등하게 대처<br>• 경영진은 개선 보다는 준수 확보에 초점을 맞춤 | • 개인의 지식, 책임, 기준을 증진시키는 문화<br>• 경영 관련 결정을 내릴 때 마다 사전에 산업안전보건의 측면 고려<br>• 향후 문제 발생 소지를 예방하는데 초점을 맞춤<br>• 긍정적인 행동과 신념을 장려하고 보상함<br>• 모든 단위에서 산업안전보건에 대한 투입을 확대하기 위해 지속적으로 노력함<br>• 모든 직무에서 산업안전보건이 '주요 활동'에 포함 됨<br>• 안전 팀은 감찰보다 촉진에 초점을 맞춤<br>• 리스크 프로필 차별화에 대한 인식이 생기기 시작<br>• 계약업체 평가 시 최저가가 아닌 안전 기록을 기준으로 평가<br>• 경영진의 강력하고 체감할 수 있는 안전을 위한 노력이 조직 전반에 영향을 미침 | • 실용적이고 비즈니스 중심적이며, 도전을 두려워하지 않는 문화가 지속적인 혁신을 주도 함<br>• 안전보건이 투자 수익, 비용 절감, 새로운 수입원과 같은 지표와 명확하게 연계 됨<br>• 기업의 브랜드 가치가 산업안전보건에 대한 접근법으로 인해 높아짐<br>• 관리 상의 위험과 중대한 위험 사이에 위험 프로필을 명확하게 구분하고 중요한 위험에 초점을 맞춤<br>• 산업안전보건 거버넌스가 조직 전체의 거버넌스 기본 체계의 일부분을 구성함<br>• 안전팀은 경영 촉진자이며, 기업 가치를 높이는 역할을 한다는 인식이 자리 잡음<br>• 산업안전보건 거버넌스가 공급망의 최말단까지 확장 됨<br>• 산업안전보건을 조직 전체, 나아가 가치사슬 전체에 걸친 개념으로 이해함<br>• 산업안전보건이 지속가능성 전략의 구성 요소로 포함 됨<br>• 경영진의 강력하고 체감할 수 있는 안전을 위한 노력이 조직 전체에 영향을 미치며, 신뢰성과 효과성이 높음 |

©IOSH 2016

## 산업안전보건협회 솔루션

훈련 및 기술 개발

관리자 교육

## *산업안전보건협회 안전한 관리*

관리자 및 감독자 지원:

- ✓ 사업장 안전 보건 관리의 필요성 설명
- ✓ 안전보건 관련 핵심 용어 정의
- ✓ 관련 법률이 사업장 안전보건에 어떻게 영향을 주는지 설명
- ✓ 사업장 내 위험에 대한 접근, 감소, 통제 방안에 대한 설명
- ✓ 사업장 내 위험 요소, 그 영향, 관리 방안 파악
- ✓ 사고 대응 및 조사 방안 파악
- ✓ 효과적인 산업안전보건 관리 체계의 특징과 효과에 대한 설명
- ✓ 안전 보건 수준 개선 원칙 설명

# 관리자 대상 화재 안전 교육

- 분야나 조직을 불문하고 전세계 모든 관리자 및 감독자를 대상으로 설계된 교육 내용
- 화재 안전 문제 해결을 위한 지식 및 도구

**Case study**

In Powys, Wales in 1989, a fire was started by arsonists at a tyre dump. The fire spread to all 10 million tyres stored there which were packed so tightly together that firefighters were unable to extinguish the blaze. The fire continued to smoulder within the dump for 15 years.

**Case study exercise**

Coldcastle Importers Ltd. is an import/export company employing 85 workers. The company has been owned and operated by the same family since 1948. It occupies a three-storey building: the ground floor is dedicated to shipping and receiving; the middle floor is dedicated to warehousing and packaging; and the top floor is where the administrative offices are located. Thirty-five of the 85 staff work on the top floor doing administrative work or sales, and one of these is a disabled person who uses a wheelchair. The electrical system is old and out of date. Although the company has the mandatory occupational safety and health policy, it does not address fire safety issues.

The premises are old and the company is considering moving to another location as the current location is frequently overfilled with stock. The company frequently receives consignments that arrive by container. The consignments are photographed, catalogued, marketed, sold, packaged and reshipped.

There is a freight lift that services the upper floors. There are two stairwells for pedestrian traffic. Electrically powered forklift trucks are used to move heavy goods on the ground floor. The forklift trucks are recharged in the evening, but sometimes overload the circuit breakers, causing them to disrupt the current.

Hazardous chemicals (solvents) are used for cleaning on the middle floor. There may be safety data sheets stored somewhere in the administration offices. Housekeeping is a significant issue and oily rags are often left lying around.

Many cardboard cartons and wrapping materials are received [illegible] discarded on the ground floor. Because of the volume [illegible] sent, there is no storage space and the passage[illegible] frequently blocked with waste material [illegible]

**Fire risk assessment form** — iosh Training and Skills

| Name of assessor | | Date | |
|---|---|---|---|
| Time | | Work area | |
| Task being assessed | | | |

| What is the fire hazard? | Who might be harmed | How might people be harmed? | Existing risk control measures | Risk Rating | | | Additional controls | New (residual) risk rating | | | Action by when & whom? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | C | R | | L | C | R | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

보다 안전하고 건강한 근로 환경

# 산업안전보건협회 기업 안전 보건

## 3등급 자격증

- 공인 자격증
- 기업 중심
- 실무적인 학습 및 평가 기법:
  - 경영 사례 에세이
  - 연구 프로젝트
  - 프레젠테이션
- 기업에 필수적인 기술적 지식과 소프트 스킬 포함
- 산업안전보건협회 회원 가입 경로

보다 안전하고 건강한 근로 환경

## 산업안전보건협회 솔루션

훈련 및 기술 개발

핵심 기술

## *산업안전보건협회 안전한 근로*

목적: 근로자 지원

- ✓ 사업장에서 안전 보건 관리를 해야 하는 주요 이유에 대해 설명
- ✓ 안전 보건 관련 주요 용어 정의
- ✓ 안전한 근로의 중요성 파악
- ✓ 사업장 안전, 보건, 웰빙에 대한 모두의 책임 파악
- ✓ 사업장 내 위험 요소, 그 영향, 관리 방안 파악
- ✓ 사업장 내 안전, 보건, 웰빙 관리 및 개선 방안 파악

## 화재 안전 의식 교육

모든 근로자는 화재를 예방할 의무가 있다. 화재 예방 및 화재 안전에 관한 적극적인 태도, 지식, 인식을 모든 근로자들이 공유해야 화재 안전 문화가 정착될 수 있다.

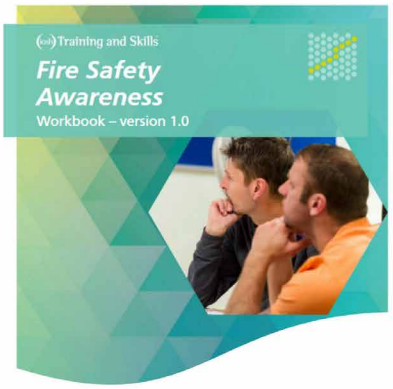
- 화재 안전은 안전한 근로와 함께 '핵심 기술' 범주에 포함된다. 이 교육의 대상은 영국은 물론 해외 근로자까지 포괄한다.


모듈 1:
효과적인 화재 대피 5

모듈 2:
화재 발생 시 역할 및 책임 13

모듈 3:
화재 및 소화 장비 19

모듈 4:
사업장 화재 위험 요소 파악 29


보다 안전하고 건강한 근로 환경

## 산업안전보건협회 과정의 주요 특징

- 사내 위험 평가 양식 사용.
- 교육 대상자의 필요에 따라 내용을 추가할 수 있는 탄력적인 구성.
- 글로벌 사례 연구.
- 교육 대상자가 선택할 수 있는 최신 영상물 다수 확보.
- 통계 및 우수 사례에 대한 조언을 포함한 산업안전보건협회 캠페인을 교육에 활용
- 강사를 위한 지원 정보 추가 제공.
- ISO 45001 시행 지원.

# 감사합니다

03

# 싱가포르 WSH 교육 프로그램

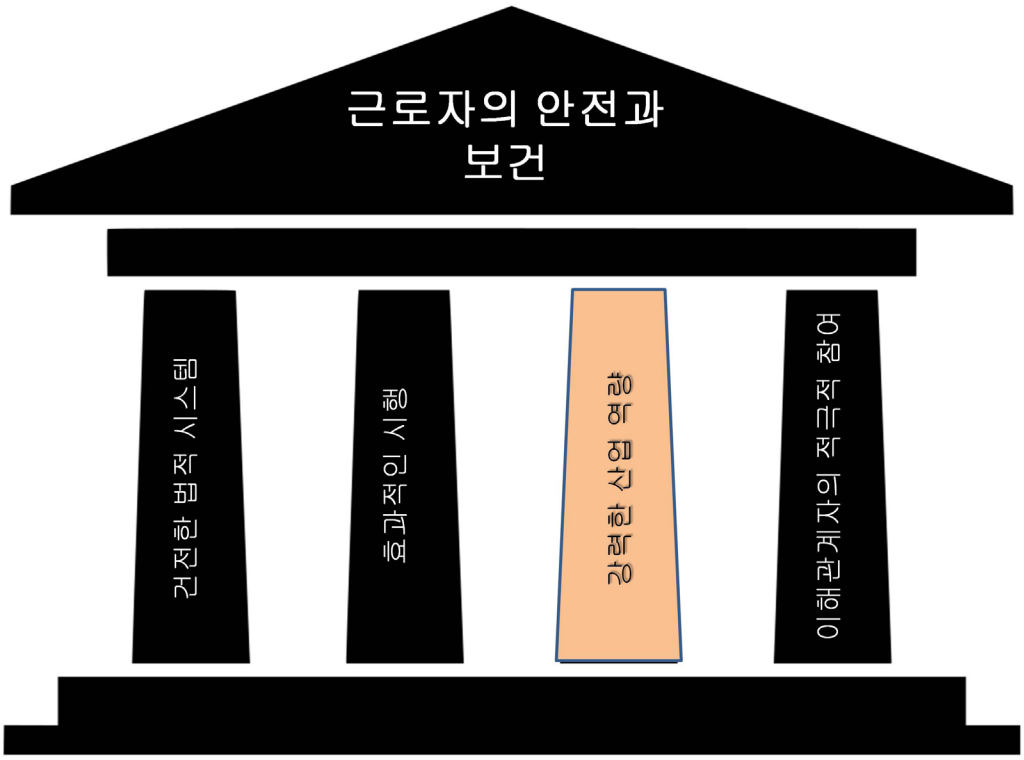
사일러스 승 국장
(싱가포르 인력부)

MINISTRY OF MANPOWER

WSHCOUNCIL

# 싱가포르 WSH 교육 프로그램

**Silas Sng**
산업안전보건부 국장




Pg 2

# WSH의 3가지 강좌

**산업 중심 강좌**

근로자, 감독자, 관리자 수준에서 각기 개발

예)

근로자급:

- WSQ는 공사현장에서 WSH를 적용

감독자급:

- 조선소 감독자 안전 강좌

관리자급:

- 선박수리관리자 안전지침 과정

**능력 중심 강좌**

예)

- 고층건물 작업 강좌
- 상업용 운전 강좌
- 장비공, 신호수

**전문 강좌**

예)

- WSH 발급 WSQ 고급 자격증
- WSH 발급 WSQ 전문가 수료증
- WSH 발급 WSQ 대학원 수료 과정

싱가포르 법률상, 근로자는 반드시 특정한 직업이나 업무를 수행하기 전에 훈련을 거쳐야 함.

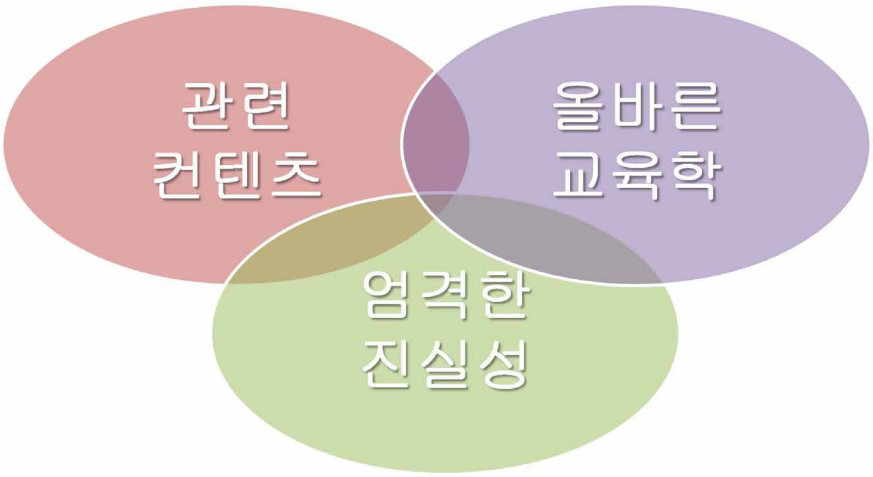
Pg 3

# 통계

1. ~ 100 강사가 56개의 WSH 강좌를 가르침
2. > 연간 200,000개의 강좌
3. ~ 5,000 WSH 전문가

Pg 4

# 교육 효율성 달성




Pg 5

# 커리큘럼 개발

- WSH 강좌는 기존 또는 새로운 기술의 요구사항을 고려해 업계 파트너와 함께 고안됨
- 산업위원회의 산업 협의 및 검증 프로세스
- 강좌는 주기적으로 재검토되고 추가됨

Pg 6

엄격한 진실성

## 자격 및 증명

올바른 교육학

강사는 다음 자격을 충족해야 함:

- 싱가포르 인증위원회 공인 학습 서비스 강사 (LSPs) 계획 (ISO 29990:2010);

및 / 또는

- SkillsFutures 싱가포르 (SSG) 인증 국가 공인 직업 능력 심사 (WSQ) 강좌;

TP는 주기적으로 감사받고 변경될 수 있음

Pg 7

## WSH 전문가에게

**Level D**
WSH 대학원 수료 과정

**WSH 감사관** WSH 관리 시스템의 효과 향상을 위한 평가, 관찰 및 제안.
- WSH (안전 보건 관리 시스템 및 감사) 규정 9

**Level C**
WSH 전문가 수료증

**WSH 담당자** WSH 위험 식별, 평가, 제어 및 관리, WSH 관리 시스템 및 문화의 개발, 구현, 유지관리 및 개선.
- WSH (WSH 담당자) 규정 9

**Level B**
WSH 고급 자격증

**WSH 코디네이터** WSH 위험의 인식, 평가, 통제 및 관리를 위해 WSH 관리 시스템의 구현을 조정하고 모니터링 – WSH (건설) 규정 7

**Level A**
WSH 자격증

**WSH 대리인/홍보 담당/지지자** WSH 위험 통제 조치 및 관리 시스템을 직장에서 구현.
- WSH (WSH 위원회) 규정

Pg 8

## 주요 과제

**자신**
계속 변화하는 운영 환경에서
관련성을 유지

**근로자**
여러 문화적 환경에서 유입된 이주
노동자를 보호

**고용주**
복종형 사고방식에 맞섬

Pg 9

## 우리의 접근

**자신**
평생학습의 문화를 수용
지속적인 전문가 양성

**근로자**
이주 노동자의 "정착 " 에 협조
급여와 복지 문제를 관찰

**고용주**
WSH를 비즈니스 의사 결정에 더욱 대두
WSH는 WSH 담당자만의 책임이 아니라
경영진의 책임임을 강조

Pg 10

감사합니다

Pg 11

04

# 한국산업안전보건공단 교육원 교육 프로그램

배영복 실장
(안전보건공단 교육원)

산업재해예방
안전보건공단
산업안전보건교육원

- Ⅰ 교육원 일반현황
- Ⅱ 교육원 주요사업
- Ⅲ 세부 교육과정
- Ⅳ '19년 과정개발 계획 및 향후 발전방향
- Ⅴ Q & A

Korea Occupational Safety & Health Agency

산업재해예방 안전보건공단 산업안전보건교육원

# Ⅰ. 교육원 일반현황

Korea Occupational Safety & Health Agency

산업재해예방 안전보건공단 산업안전보건교육원

## Ⅰ. 교육원 일반현황

| | |
|---|---|
| 설립 | ㅇ 한국산업안전공단법(1987년 5월 30일 법률 제3931호) 제 6조 및 제26조에 의거, 1987년 12월 9일 설립 |
| 설립 목적 | ㅇ 산업현장의 안전·보건관계자 에게 산업안전보건에 관한 지식과 기술보급 및 실용적 사례교육과 실험·실습교육을 통해 직무수행능력을 배양하여, 산업재해를 예방하고자 함 |

Korea Occupational Safety & Health Agency

## Ⅰ. 교육원 일반현황(전략 및 목표)

산업재해예방 안전보건공단 산업안전보건교육원

집체 교육 (84개 과정 8,950명) → **Blended Learning** (2개 이상의 학습방법을 결합한 학습형태) ← 이러닝 (2개 과정 80,000명)

| 집체교육 | 이러닝교육 | 안전보건교육지원 |
|---|---|---|
| ○ 사고 사망 예방을 위한 교육과정 운영<br>○ 정부정책 및 안전보건 이슈 반영<br>○ 전문·특화된 내·외부 안전보건전문가 과정 운영 | ○ 국민 중심, 「안전보건 MOOC」 운영<br>○ 대국민·노동자 교육수요자 맞춤형 교육 강화<br>○ 특수고용형태 및 플랫폼 노동자 등 온라인 교육 확대 | ○ T·C 실습장 구축, 중부 교육장 확충 등 인프라 강화<br>○ 교육과정 평가·환류 강화<br>○ 교수역량강화를 통한 교육 품질 개선<br>○ KOSHA 종합교육 시스템 통합구축 추진 |

국민제안 및 VOC 반영·환류 시스템 운영 (위원회 운영(분기 1회)) → CQI* 및 국민中心 교육과정개발 체계 구축 및 운영 ← 학습서비스 경영시스템 구축 (ISO 29990 인증·유지)

* CQI(Continous Quality Improvement) : 문제점을 환류하여 지속적으로 교육품질을 개선하는 제도

**국민의 생명을 최우선하는 안전보건교육으로, 산재예방 핵심기능 수행**

Korea Occupational Safety & Health Agency

## Ⅰ. 교육원 일반현황

산업재해예방 안전보건공단 산업안전보건교육원

### 사업물량

| 사 업 명 | | '19년 계획(A) | '18년 계획(B) | 증감(A-B) | 비고 ('18년 실적) |
|---|---|---|---|---|---|
| 계 | | 88,950명 | 79,505명 | 9,445명 | 189,160명 |
| 집체교육 | 직무교육 | 2,470명 | 550명 | 1,920명 | 667명 |
| | 양성교육 | 280명 | 305명 | △ 25명 | 320명 |
| | 전문화교육 | 5,175명 | 7,060명 | △ 1,885명 | 7,889명 |
| | 특정교육 | 1,025명 | 590명 | 435명 | 1,215명 |
| | 전문역량강화교육 | 수시 | 1,000명 | - | 1,493명 |
| E-Learning | | 80,000명 | 70,000명 | 10,000명 | 177,576명 |
| 안전보건 최고경영자과정 | | 1회 | 1회 | - | - |
| 중소기업 안전보건전문가과정 | | 1회 | 1회 | - | - |
| 오픈캠퍼스(안전 | | 1회 | 1회 | - | - |

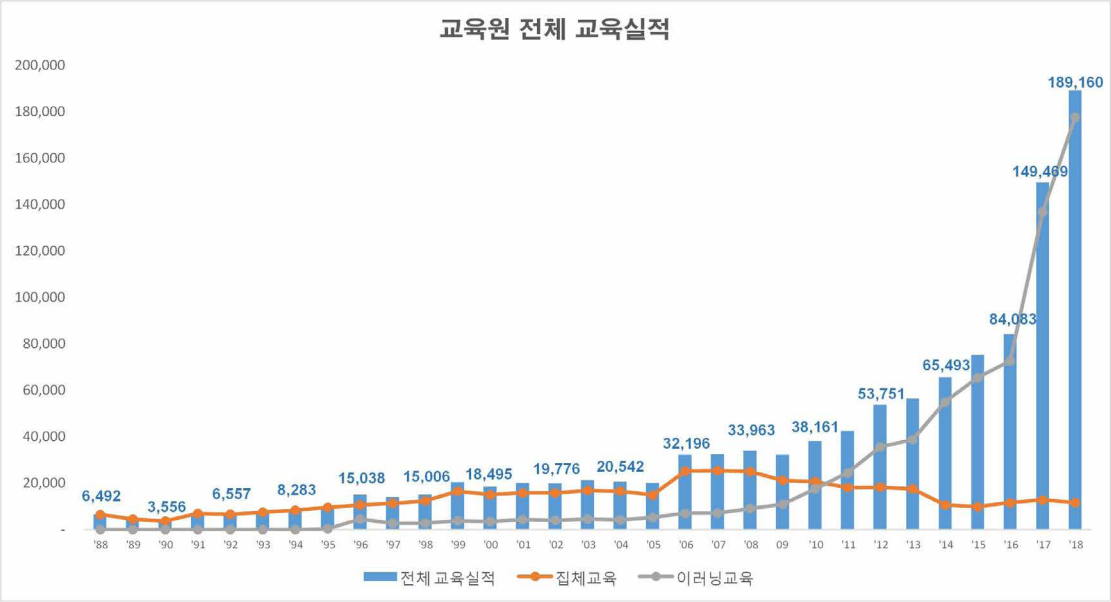
### '19년 예산 : 3,479백만(※ 타워크레인 실습장 구축 예산 5,863백만 별도)

Korea Occupational Safety & Health Agency

## Ⅰ. 교육원 일반현황

산업재해예방 안전보건공단 산업안전보건교육원

- 연도별 교육실적 : 총 1,122,636명('88~'18)




Korea Occupational Safety & Health Agency

산업재해예방 안전보건공단 산업안전보건교육원

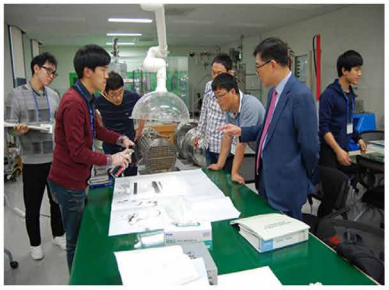
# Ⅱ. 교육원 주요사업

Korea Occupational Safety & Health Agency

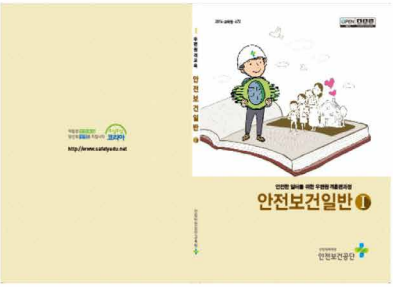
## Ⅱ. 교육원 주요사업

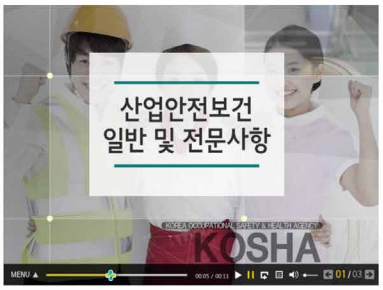
산업재해예방 안전보건공단 산업안전보건교육원

- 집합교육 : 82개 과정 11,584명 교육(2018년 기준)



- 이러닝 교육 : 3개 과정 177,576명 교육(2018년 기준)








## Ⅱ. 교육원 주요사업

산업재해예방 안전보건공단 산업안전보건교육원

직무교육 | 양성교육 | 전문화 교육 | 특정교육 | 인터넷 교육

- 산업안전보건법 제32조에 따라,
- 산업안전보건법 제36조의2에 따라,
- 안전관리자, 보건관리자, 관리감독자 등을 대상으로,
- 안전공학, 안전관리, 건설안전, 산업보건 등의 전문가 양성 과정을
- 고용노동부 감독관, 노조간부, 안전담당 공고 교사 등을 대상으로,
- (인터넷 직무교육) 안전보건관리책임자, 안전관리자, 보건관리자
- (인터넷 원격교육) 관리감독자, 교육희망자 등(맞춤 교육)

## Ⅱ. 교육원 주요사업

산업재해예방 안전보건공단 산업안전보건교육원

**안전보건 최고경영자과정**

- 기업 최고경영자, 임원, 고위공무원 등을 대상으로,
- 경영층 안전보건의식 제고를 통한 안전문화 활성화에 기여

**중소기업 안전보건전문가과정**

- 중소규모 사업장 안전보건관계자를 대상으로,
- 산업안전보건 계약학과 비용 지원을 통해, 석사 학위 취득 도모

**오픈캠퍼스 (안전公감 더하기+)**

- 지역 대학생(울산대학교 3~4학년)을 대상으로,
- 사이버 기초교육 및 현장실습교육을 병행하여 안전보건인력 양성
  * '19. 3. 7. ~ 6. 20. (매주 목요일 16~18시)/하반기 협의후 확정
  * 울산대학교와 교육원 실습실에서 격주로 수업

Korea Occupational Safety & Health Agency

## Ⅱ. 교육원 주요사업

산업재해예방 안전보건공단 산업안전보건교육원

| | 교육과정 | 교육대상 | 세부교육과정('19년도) | 수료시 혜택 |
|---|---|---|---|---|
| 집합교육 | 직무교육과정<br>산안법 32조 | 전문기관 종사자 | 4개 분야 8개 과정 2,470명<br>(안전·보건 전문기관 종사자, 석면관리 전문기관 종사자, 재해예방 전문지도기관 종사자) | 법정직무교육<br>(2016.10.28 시행) |
| | 양성교육과정<br>산안법 36조 | 자체검사<br>담 당 자 | 7개 과정 280명<br>(프레스 및 전단기, 크레인, 타워크레인, 화학설비·압력용기, 건조설비, 국소배기장치, 리프트 및 곤돌라) | 안전검사 자격부여 |
| | 전문교육과정<br>안전보건교육규정<br>('88부터 실시) | 안전보건관계자<br>관리감독자 | . 계 : 57개 과정 5,175명<br>. 안전관리분야: 7개 과정 825명<br>. 안전공학분야: 16개 과정 1,765명<br>. 건설안전분야: 12개 과정 960명<br>. 산업보건분야: 22개 과정 1,625명 | 법정교육이수<br>정기교육면제 |
| | 특정교육과정<br>(자체교육) | 관리감독자<br>예비산업인력<br>고용부감독관 | . 7개 과정 1,025명<br>(고용노동부 산업안전 감독관, 노조 간부, 사업장 안전보건 업무 지도사, 특성화고 교사 등) | 정기교육면제 |
| | 전문역량강화교육 | 내·외부 안전보건 전문가 | . 수시(전문.특화된 장기교육과정) | 안전보건 전문가 양성 |
| 이러닝 | 인터넷직무교육<br>통신교육 | 안전보건관리책임자<br>안전.보건관리자<br>관리감독자<br>예비산업인력 | .계 : 2개 과정 80,000명<br>. 인터넷직무교육 : 1,200명<br>. 인터넷원격교육: 78,800명 | 정기교육면제 |
| 협업 | 협업과정 | 안전보건 최고경영자과정<br>중소기업 안전보건인력 양성<br>오픈캠퍼스(안전公감더하기+) | . 3개 과정 3회<br>(최고경영자, 중소기업 안전보건관계자 ) | 전문인력양성 |

Korea Occupational Safety & Health Agency

## Ⅱ. 교육원 주요사업

산업재해예방 안전보건공단 산업안전보건교육원

| 교육명 | 과정명 | 교육대상 | 교육시간 | 교육내용 |
|---|---|---|---|---|
| 직무 교육 | · 안전관리 전문기관 종사자 직무교육 신규(BL), 보수 | · 안전관리 전문기관 종사자 | · 신규 : 34시간 (집체 24, 사이버 10) · 보수 : 24시간 | · 산업안전보건법 및 정책방향 · 분야별 재해사례 · 사업장 안전관리 기법 및 실습 · 위험성평가 등 |
| | · 보건관리 전문기관 종사자 직무교육 신규(BL), 보수 | · 보건관리 전문기관 종사자 | | |
| | · 재해예방 전문지도기관 종사자 직무교육 신규(BL), 보수 | · 재해예방 전문지도 기관 종사자 | | |
| | · 석면조사기관 종사자 직무교육 신규(BL), 보수 | · 석면조사기관종사자 | | |
| 양성 교육 | · 프레스·전단기 · 크레인, 타워크레인 · 화학설비·압력용기 · 건조설비, 국소배기장치 | · 사업장 유해·위험 기계 등의 검사업무를 수행 하고자 하는 자 | 28시간 (3박 4일) | .검사대상 기계 및 설비별 실습위주의 교육 |
| 전문화 교육 | · 안전관리분야(7개) | · 사업장 안전· 보건 관리자, 관리감독자 등 | 11시간~36시간 (2박 3일 ~ 4박 5일) | · 산업별, 공정별, 재해기인물별로 실험·실습 위주 교육 |
| | · 안전공학분야(16개) | | | |
| | · 건설안전분야(12개) | | | |
| | · 산업보건분야(22개) | | | |
| 특정 교육 | 공업계 고등학교 교사 연수, 노조간부 교육, 고용노동부 감독관 교육, 사업장 안전보건업무 담당자 워크숍 | · 특성화고(마이스터고) 교사, 노조 간부, 고용노동부 감독관, 사업장 관계자 등 | 20시간~73시간 (2박3일 ~ 8박 10일) | · 대상 기관과 사전 협의를 통한 맞춤형 교육과정 운영 (산업안전보건 기본 등) |

Korea Occupational Safety & Health Agency

산업재해예방 안전보건공단 산업안전보건교육원

# Ⅲ. 세부 교육과정

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 직무교육(8개 과정)

○ 교육인원 : 2,470명(84회 × 15~25명)

○ 교육대상 : 안전, 보건전문지도기관, 재해예방전문지도기관, 석면기관 종사자

○ 교육과정

- 안전, 보건관리종사자 직무교육(신규, 보수)
- 재해예방전문지도기관 종사자 직무교육(신규, 보수)
- 석면조사기관 종사자 직무교육(신규, 보수)

○ 교육내용

- 안전보건정책방향, 관련법령 및 재해예방 실무 중심의 실험, 실습을 통한 현장감 있는 교육 실시

* 신규교육(24시간), 보수교육(34시간)

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 양성교육(7개 과정)

○ 교육인원 : 280명(14회 × 20~25명)

○ 교육대상 : 유해위험 기계기구 사업장의 안전담당자 등 산업안전보건법 제36조의 2에 따른 검사원 자격부여 과정

○ 주요내용

- 프레스 및 전단기 검사원
- 크레인검사원
- 타워크레인 검사원
- 화학설비 압력용기 검사원
- 건조설비 검사원
- 국소배기장치 검사원
- 리프트 및 곤돌라 검사원

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 전문화교육(안전관리분야/ 7개 과정)

○ 교육인원 825명(55회 × 20~25명)

- 각 과정별 교육 수요에 따라 3~4회, 최대 12회 운영

○ 교육대상 : 사업장내 안전관리자, 안전담당자, 관리감독자, KOSHA 18001 심사원 자격 취득희망자 등 안전보건관계자

○ 주요내용

- 사업장 안전보건강사 자격
- KOSHA 18001 심사원 양성(건설업 외)
- KOSHA 18001 인증실무(건설업 외)
- KOSHA 18001 내부심사(건설업 외)
- 사업장의 안전문화 리더 양성
- 안전심리 코칭
- 위험성평가 전문가 양성과정

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 전문화교육(안전공학분야/ 16개 과정)

○ 교육인원 : 1,765명(145회 × 20~25명)

- 각 과정별 교육 수요에 따라 3~4회, 최대 16회 운영

○ 교육대상 : 사업장내 안전관리자, 안전담당자, 관리감독자, 근로자 등 제조업 안전관리 능력 향상 및 화재·폭발 및 독성물질 누출 등에 의한 중대산업사고 예방을 위한 교육

○ 주요내용

- 전기재해예방 접지실무
- 폭발위험장소 전기설비 전문가 양성
- 지게차 및 고소작업대 작업안전 전문가
- 줄걸이 작업 안전 전문가
- 공정안전보고서 작성 및 평가
- 화학사고 분석 및 재발방지대책
- 연구실험실 안전
- 제조업 유해위험방지계획서 작성 실무

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 전문화교육(건설안전분야/ 12개 과정)

○ 교육인원 : 960명(50회 X 25~30명)

○ 교육대상 : 건설현장 내 안전관리자, 안전담당자, 관리감독자 등

○ 주요내용

- 가설공사 안전
- 거푸집 동바리 구조안전
- 굴착공사 안전
- 추락재해예방시스템
- 초고층 건설공사 안전
- 사망재해 다발 건설기계(장비) 안전 관리자

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 전문화교육(산업보건분야/ 22개 과정)

○ 교육인원 : 1,625명(95회 X 20~25명)

○ 교육대상 : 사업장내 산업보건의, 보건관리자, 간호사 등

○ 주요내용

- 감정노동 및 직무스트레스 관리
- 국소배기장치 설계 및 유지관리
- 근골격계 질환 예방을 위한 유해요인조사
- 일터에서의 Mental Health
- 석면해체작업 감리원
- 소음관리 실무
- 인력운반작업 요통예방 실무
- 청력보존 프로그램
- 호흡기보호 프로그램

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 위험과 운전분석(HAZOP)

○ 교육인원 : 150명(6회 × 25명)
○ 교육대상 : 안전관계자 및 관리감독자, 교육희망자(화학공장의 생산, 기술분야 종사자, 엔지니어링 설계담당자)
○ 제안내용
- 공정안전개론, 위험성평가 개론, HAZOP기법연구, 사례연구, 회분식 실습, 연속식 실습, 종합실습, 정성적 위험성평가 활용 사례, HAZOP 프로그램 실습

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 화학사고분석 및 재해방지대책

○ 교육인원 : 60명(3회 × 20명)
○ 교육대상 : 안전보건전문기관 종사자, 사업장 안전보건관리자 및 관리감독자, 관련분야 작업 근로자 등 교육희망자
○ 주요내용
- 사고조사이론(기법), 수사기법, 화재폭발 감식, 비상시 대비 및 대응방법, 화학사고 사례분석

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 초고층 건설공사 안전

○ 교육인원 : 75명(3회 × 25명)
○ 교육대상 : 건설현장 안전관리자 및 관리감독자, 발주자, 감리원, 초고층 건설공사 관계자 등
○ 제안내용
- 초고층 건설공사개론, 초고층 건설공사 시공계획, 초고층 건설공사 안전관리계획, 초고층 재해사례 분석 및 토론

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 터널 및 교량공사 안전

○ 교육인원 : 50명(2회 × 25명)
○ 교육대상 : 건설업 재해예방기관 종사자, 건설현장 안전관리자 및 관리감독자, 발주자 및 감리원 등
○ 제안내용
- 과정능률 향상기법, 교량공사 개론, 건설기계 안전 및 사례분석, 터널공사 개론, 발파작업 안전, 터널굴착(NATM공법)안전, 터널, 교량현장실습(현장방문), 현장실습 분석 및 토론, 재해사례분석 및 토론

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

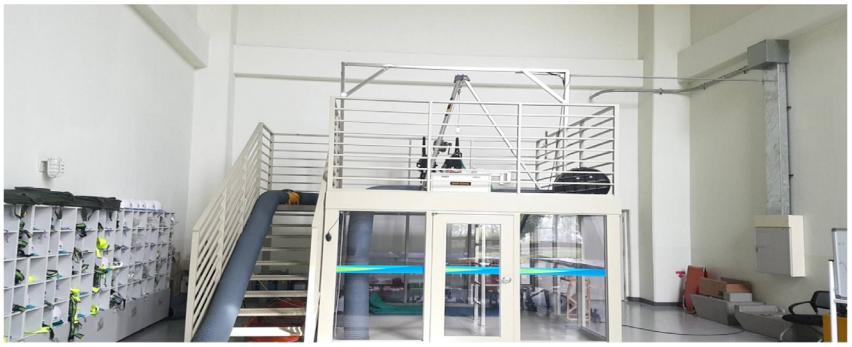
### 밀폐공간 작업안전

○ 교육인원 : 325명(13회 × 25명)

○ 교육대상 : 사업장 안전.보건관리자, 관리감독자, 근로자 등

○ 제안내용

- 질식재해 예방 법령 및 기초지식, 응급처치 실습, 밀폐공간 재해예방 실습, 발표 및 토의





## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 교육평가 체계

**교육평가 단계 및 특징**

| <1단계> | | <2단계> | | <3단계> |
|---|---|---|---|---|
| **교육만족도 평가** (교육 後) | ⇒ | **학업성취도 평가** (교육 後) | ⇒ | **현업적용도 평가** (교육 後 3개월 이후) |
| · 만족도, 학습결과<br>· 교육교재만족도, 강사만족도 | | ·교육내용 시험평가 | | ·현업적용도<br>·현업적용 영향요인 등 |

- **커크패트릭(Kirkpatrick) 모형에 따른 3단계 평가 실시**
- **전면 온라인 방식 (Survey Monkey 플랫폼 활용)**
- **평가 결과 실시간(Real-time) 분석 및 공유**

Korea Occupational Safety & Health Agency

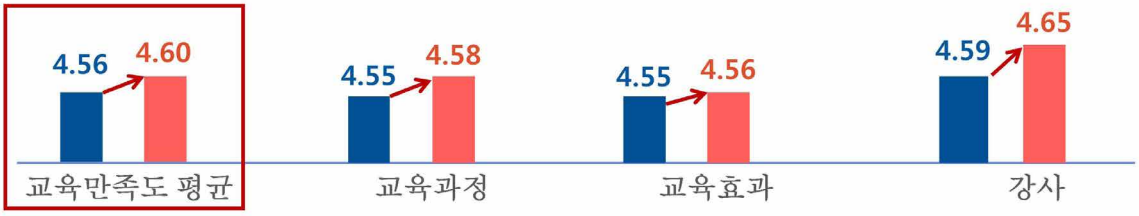
## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 교육평가 체계

**'19년 1분기 교육만족도 평가결과**

'18년 '19년(5점만점)




| 연도 | 전체 평균 | 교육만족도 | | | | | | 교육효과 | | | | 강사 별평균 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 교육 내용 | 강의 | 시설 | 운영 | 교재 | 전반적 | 이해 정도 | 실무 능력 향상 | 현업 적용 의지 | 안전 의식 향상 | |
| 2018 | 4.56 | 4.60 | 4.56 | 4.61 | 4.55 | 4.45 | 4.54 | 4.54 | 4.53 | 4.56 | 4.58 | 4.59 |
| **2019 1분기** | **4.60** | **4.60** | **4.60** | **4.62** | **4.59** | **4.51** | **4.57** | **4.56** | **4.54** | **4.58** | **4.58** | **4.65** |

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 교육평가 체계

**'18년 하반기 현업적용도 평가결과**

- 평가대상 : 2018년 하반기 집체교육 59개 과정
- 평가방법 : 교육과정 수료 후 3개월이 지난 시점 마다 모바일 조사 실시
- 응답인원 : 1,008명(응답률 24.7%)

**2018년 4.19점으로**
**2017년 대비 0.07점 상승**

Korea Occupational Safety & Health Agency

## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 교육평가 체계

**VOC(고객의 소리) 분석**

**1.교육방법의 개선 2. 컴퓨터실습실 개선 3. 교육 시간 조정 4. 긍정의견**
등 교육과정 개편의견이 두드러짐



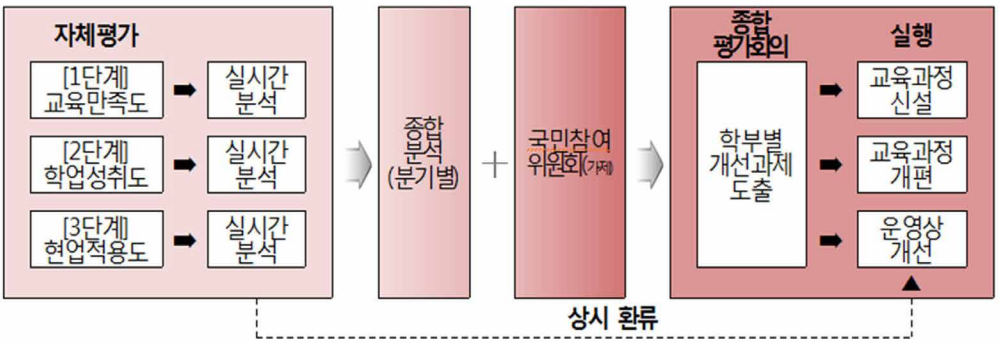
## Ⅲ. 세부 교육과정

산업재해예방 안전보건공단 산업안전보건교육원

### 교육평가 체계

**피드백 체계**

각 과정 종료 후 VOC(고객의 소리) 실시간 공유 및 분기별 분석을 통해 고객만족도 향상



산업재해예방 안전보건공단 산업안전보건교육원

# IV. '19년 과정개발 계획 및 향후 발전방향

Korea Occupational Safety & Health Agency

산업재해예방 안전보건공단 산업안전보건교육원

## IV. '19년 과정개발 계획 및 향후 발전방향

### ■ 2019년도 교육과정 개발 계획

- **직무교육(4개 과정)**
  - ○ 안전검사기관 종사자 직무교육(신규)
  - ○ 안전검사기관 종사자 직무교육(보수)
  - ○ 자율안전검사기관 종사자 직무교육(신규)
  - ○ 자율안전검사기관 종사자 직무교육(보수)

- **양성교육(6개 과정)**
  - ○ 원심기 및 롤러기 검사원
  - ○ 컨베이어 및 사출성형기 검사원
  - ○ 고소작업대 검사원
  - ○ 산업용 로봇 검사원
  - ○ 이동식크레인· 고소작업대 조종작업 자격 취득과정
  - ○ 타워크레인 설치· 해체작업 자격 취득과정

Korea Occupational Safety & Health Agency

## IV. '19년 과정개발 계획 및 향후 발전방향

산업재해예방 안전보건공단 산업안전보건교육원

### 전문화교육(4개 과정)

※ 새로운 산업환경(5G기술, 스마트 팩토리 등) 및 안전환경 대비 교육과정 개발

○ 건설업 발주자 안전보건 책무과정

○ 스마트 팩토리 안전보건전문과정

- 스마트팩토리의 핵심 안전제어 요소인 SIL(안전무결성 기준), PL(성능수준) 등

○ 전자산업 산업보건전문과정

- 반도체, LCD 및 OLED 산업근로자 보호 및 건강증진

○ 경영자 안전경영 과정

- 경영층의 안전과 경영 접목 확산

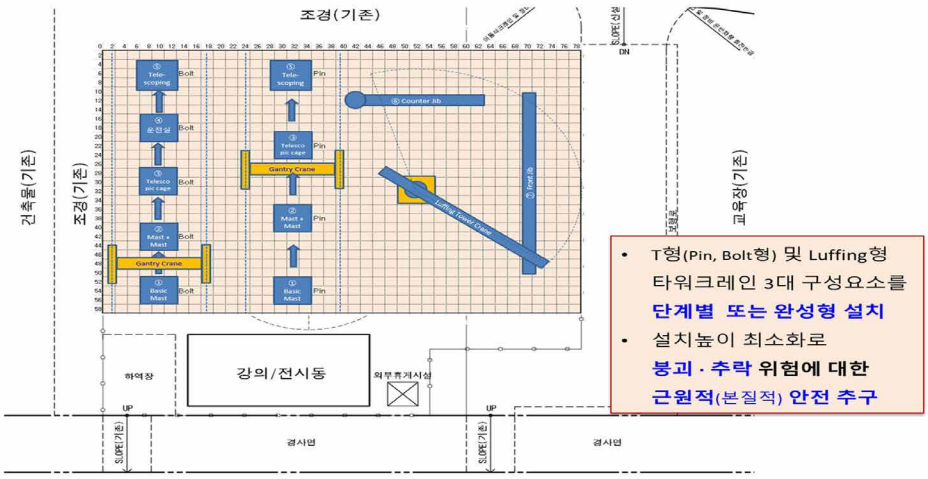


## IV. '19년 과정개발 계획 및 향후 발전방향

산업재해예방 안전보건공단 산업안전보건교육원

### 타워크레인 설치해체작업 자격취득 과정

**실습교육장 배치(안)**




- T형(Pin, Bolt형) 및 Luffing형 타워크레인 3대 구성요소를 **단계별 또는 완성형 설치**
- 설치높이 최소화로 **붕괴 · 추락 위험에 대한 근원적**(본질적) **안전 추구**

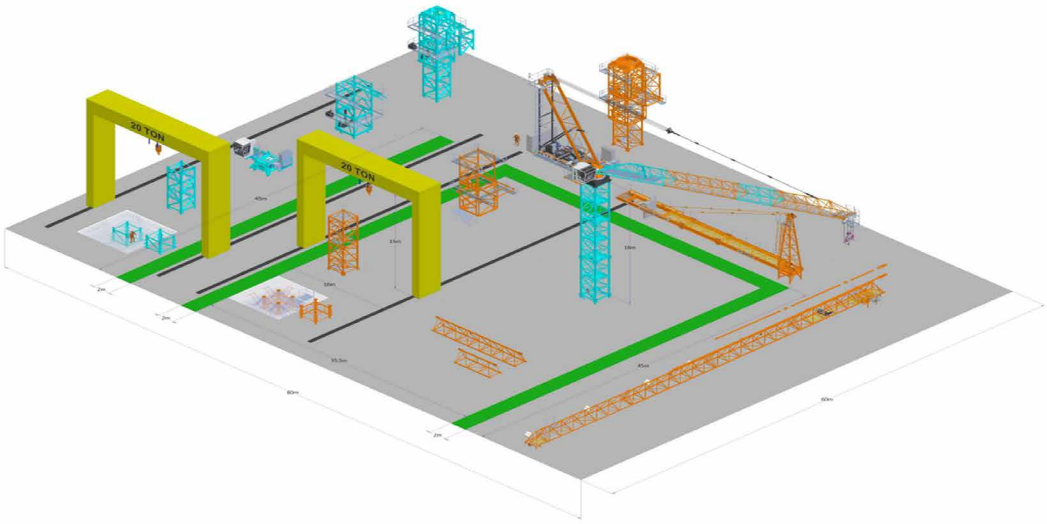
Korea Occupational Safety & Health Agency

## IV. '19년 과정개발 계획 및 향후 발전방향

산업재해예방 안전보건공단 산업안전보건교육원

### 타워크레인 설치해체작업 자격취득 과정

**실습교육장 배치 3D 모델링**




Korea Occupational Safety & Health Agency

## IV. '19년 과정개발 계획 및 향후 발전방향

산업재해예방 안전보건공단 산업안전보건교육원

### 타워크레인 설치해체작업 자격취득 과정

**강의/전시동 구성(안)**

| 층별 | 실 명 | 면적(㎡) | 용도 및 특이사항 |
|---|---|---|---|
| 지상 1층 | 교수실 및 강사대기실 | 50 | 교수 3인 – 책상/PC/파티션, 강사대기 2인 – 쇼파 등, 탕비공간 |
| | 행정실 | 50 | 5명 기준, 책상, PC, 파티션, 탕비공간, 회의테이블 등 |
| | 전시실 | 120 | 전시대 제작 설치는 본 설계에 포함, 층고는 발주기관과 협의하여 결정 |
| | 휴게실(남) | 25 | 5명 기준 |
| | 휴게실(여) | 15 | 3명 기준 |
| | 샤워실 및 탈의실(남) | 30 | 남자 5명 동시 사용 기준 |
| | 샤워실 및 탈의실(여) | 15 | 여자 2명 동시 사용 기준 |
| | 창고 | 20 | |
| | 기타 공용 | 170 | 출입구, 복도, 계단실, 화장실 등을 포함하며, 관계법규 검토 및 발주기관 협의 후 엘리베이터 및 장애인화장실 설치 |
| | **소계** | **495** | |
| 지상 2층 | 교육실-1 | 65 | 30명, 이론교육 |
| | 교육실-2 | 65 | 30명, 이론교육 |
| | 교육실-3 | 65 | 각 30명, 이론교육, 통합으로 사용 가능하도록 설계, 필요 시 가변형 벽체를 이용하여 두 개의 실로 나누어 사용 가능 |
| | 교육실-4 | 65 | |
| | 분임토의실-1 | 25 | 10명기준,토론교육 |
| | 분임토의실-2 | 25 | 10명기준,토론교육 |
| | 분임토의실-3 | 25 | 10명기준,토론교육 |
| | 창고 | 20 | |
| | 기타 공용 | 140 | 복도, 계단실, 화장실 등을 포함 |
| | **소계** | **495** | |
| **합계** | | **990** | **전체 연면적이 1,000㎡ 미만이 되도록 계획** |

Korea Occupational Safety & Health Agency

## IV. '19년 과정개발 계획 및 향후 발전방향

산업재해예방 안전보건공단 산업안전보건교육원

### 타워크레인 설치해체작업 자격취득 과정

**실습 교육시간표(안)**

| 교육과정 | 번호 | 구분 | 시간 |
|---|---|---|---|
| 총계 | | | 144 |
| 이론 교육 | | 계 | 40 |
| 실습 교육 | | 계 | 104 |
| 공통 | 실내 | 강의/전시동 | 8 |
| T형 Bolt type | ① | 기본교육 및 Basic Mast | 8 |
| | ② | Mast + Mast | 6 |
| | ③ | Cage 및 Telescoping | 24 |
| | ④ | 운전실 및 Tower Head | 8 |
| | ⑤ | Counter Jib | 8 |
| | ⑥ | Front Jib | 8 |
| T형 Pin type | ① | 기본교육 및 Basic Mast | 8 |
| | ② | Mast + Mast | 6 |
| | ③ | Telescoping | 16 |
| | ④ | 운전실 | 4 |
| Luffing형 | 참관 | Telescoping 참관 | 필요 시 |

Korea Occupational Safety & Health Agency

## IV. '19년 과정개발 계획 및 향후 발전방향

산업재해예방 안전보건공단 산업안전보건교육원

## ■ 향후 발전방향

### 사업장 안전보건관계자 전문성 강화 교육프로그램 지속 개발

○ 플랫폼과 사물인터넷 활용 가상사업장 유해· 위험 평가관련 과정(가상사업장(VR) 위험성평가)

○ 로봇과 인간 협업에 따른 유해· 위험요인 예방 과정(산업용 로봇 및 자동제어시스템/인간중심설계 전문가)

○ 고령화에 따른 직무스트레스 완화과정(고령근로자 건강증진실무, 심리적 건강보호를 위한 휴식설계)

○ 건설공사 발주단계에서 적정 안전공법 반영토록 하는 과정(건설공사 안전설계 과정)

### 직원 전문역량강화 교육 프로그램 개발운영

○ 분야별 다양한 직원 전문화 교육 프로그램

- 건설안전, 전기안전, 기계안전, 화공안전, 서비스 안전, 안전보건경영시스템, 중대재해조사기법, 산업보건, 새로운 산업환경 변화에 따른 신기술 안전· 보건 과정 등

Korea Occupational Safety & Health Agency

산업재해예방
안전보건공단
산업안전보건교육원

# 감사합니다

Korea Occupational Safety & Health Agency

# ENGLISH

# Contents


[ Moderator and Speakers & Time Table ] 80

01 IAG OSH Educational Programmes: strengths and strategies 81
- Dr. Ulrike Bollmann (Germany)

02 IOSH OSH Educational Programmes: Strength and Strategies 107
- Mr. Alan Stevens (U.K.)

03 Singapore's WSH Educational Programmes 121
- Mr. Silas Sng (Singapore)

04 Training Program at Occupational Safety and Health Training Institute 129
- Mr. Youngbok Bae (Korea)

# [ Moderator and Speakers & Time Table ]

## ○ Moderator and Speakers

| Subject | Moderator and Speakers | | |
|---|---|---|---|
| | Name | Title | Affiliation |
| Moderator | Injae Shin | Director General | OSHTI, KOSHA |
| Germany | Ulrike Bollmann | Head | IAG of DGUV |
| U.K. | Alan Stevens | Head | IOSH |
| Singapore | Silas Sng | Divisional Director | Ministry of Manpower |
| Korea | Youngbok Bae | Director | OSHTI, KOSHA |

## ○ Time Table

| Time | | Contents | Reference |
|---|---|---|---|
| 14:00~14:02 | 2min | • Opening Message | Kwon, Jong Kyu (Director, KOSHA) |
| 14:02~14:10 | 8min | • Introducing Speakers | Moderator |
| 14:10~14:40 | 30min | • Dr. Ulrike Bollmann: IAG's Programme | Each Country's Education Programme of OSH Professionals - Strengths and Strategies |
| 14:40~15:10 | 30min | • Mr. Alan Stevens: IOSH's Programme | |
| 15:10~15:40 | 30min | • Mr. Silas Sng Singapore's Programme | |
| 15:40~16:10 | 30min | • Mr. Youngbok Bae KOSHA's Programme | |
| 16:10~16:30 | 20min | • Discussion | Q&A with audience |
| 16:30~16:40 | 10min | • Wrap-up | Moderator |
| 16:40~17:00 | 20min | • Closing & Photo time | |

01

# IAG OSH Educational Programmes: strengths and strategies

Reducing fatalities in Germany by enhancing OSHprofessionals' competence

Dr. Ulrike Bollmann
(IAG of DGUV, Germany)

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

# IAG OSH Educational Programmes: strengths and strategies

## Reducing fatalities in Germany by enhancing OSH professionals' competence

Dr Ulrike Bollmann
52nd National Occupational Safety and Health (OSH) Week
3 July 2019, COEX, Seoul, Korea

DGUV

## DGUV facts and figures

## IAG OSH educational programmes

## Training of safety professionals

## Strengths and strategy of IAG training

DGUV

## Statutory Accident Insurance Institutions

© DGUV



DGUV

## German Social Accident Insurance Institutions cover

© DGUV

DGUV

## German Social Accident Insurance Institutions cover

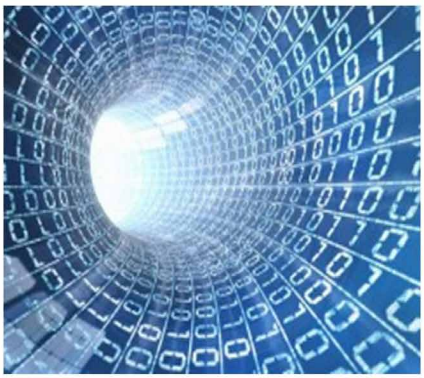
occupational accidents

commuting accidents

occupational diseases

DGUV

## OSH training by DGUV



© alphaspirit, fotolia.com

**340,000 participants** per year

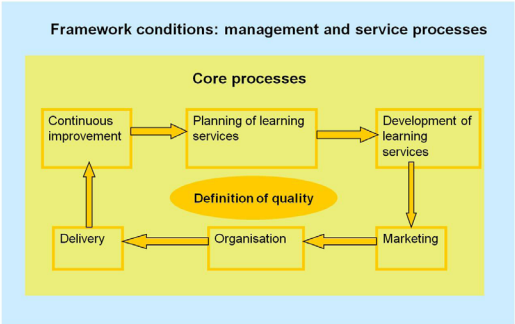
**20,000 seminars**

- DGUV **one of the largest providers of adult education** in Germany
- forms the **basis for a high level of safety and health at work** in Germany

DGUV

## Quality framework for OSH training

**Training quality model**




© DGUV

**Quality framework for all training institutions within DGUV**

**Standards** for

- core elements of training: program, marketing, organisation
- general conditions: management and services

➢ **Continuous improvement**

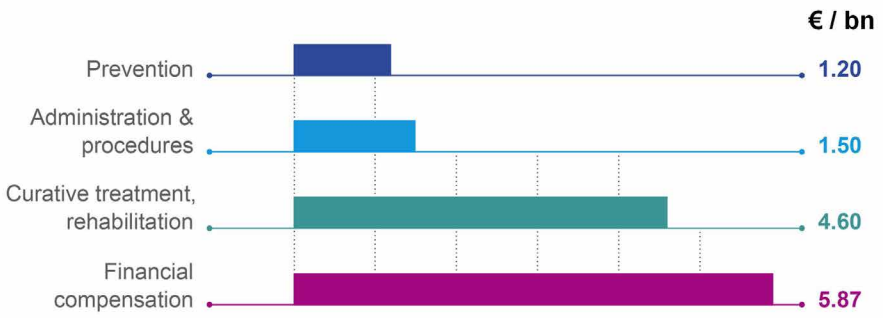


DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

## Statistics

DGUV

## Expenses of the Social Accident Insurance Institutions 2017

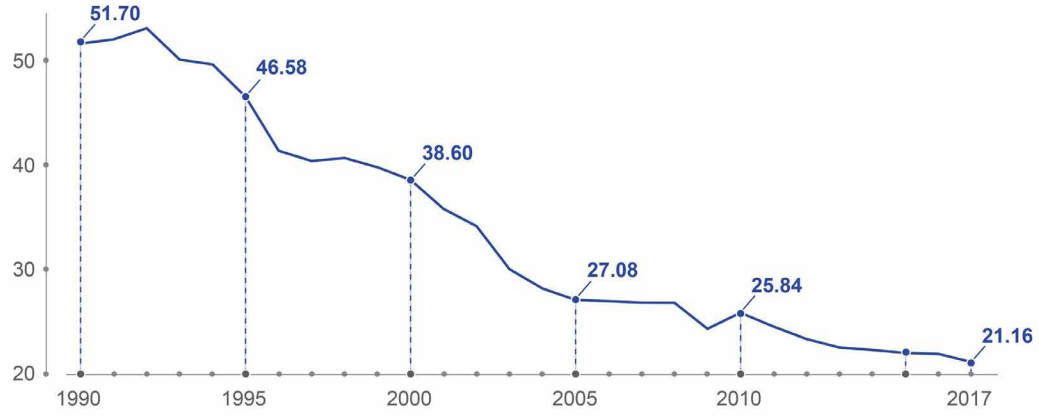





DGUV

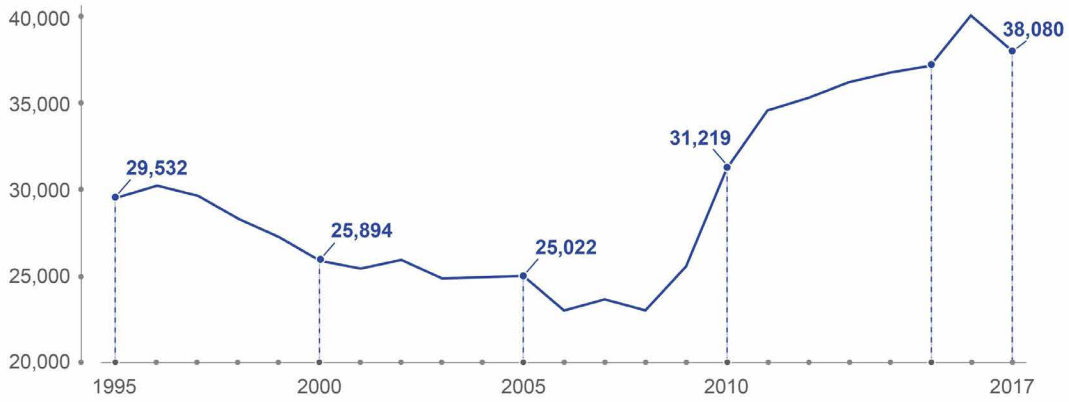
## Reportable accidents at work

**per 1,000 full time employees**



DGUV

## Confirmed cases of occupational diseases

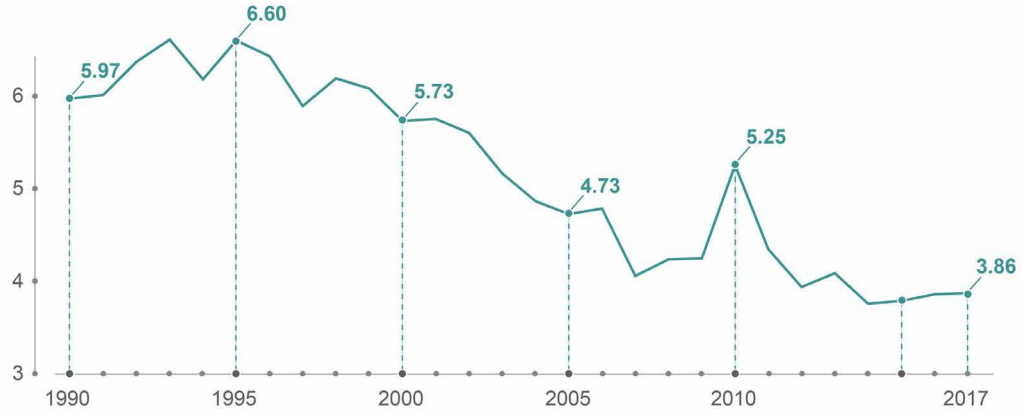



Bollmann, IAG Training 03.07.2019 Seite 11

DGUV

## Reportable commuting accidents

per 1,000 full time weighted insurance relationships

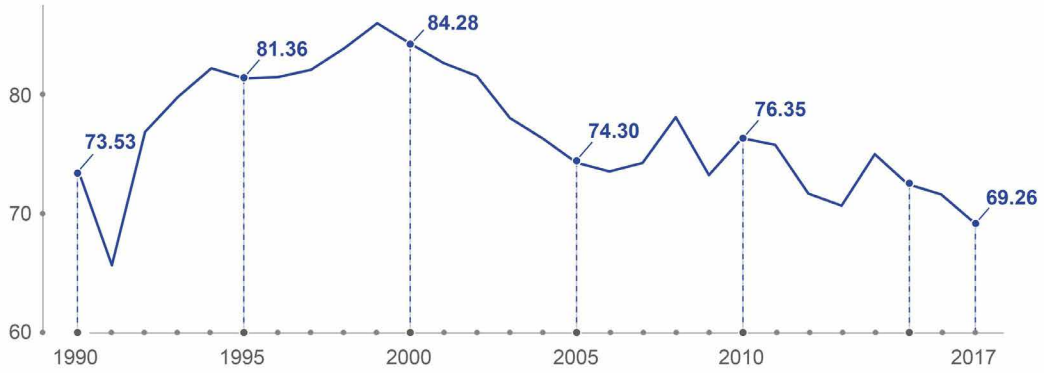



Bollmann, IAG Training 03.07.2019 Seite 12

DGUV

## Reportable accidents at school

per 1,000 students

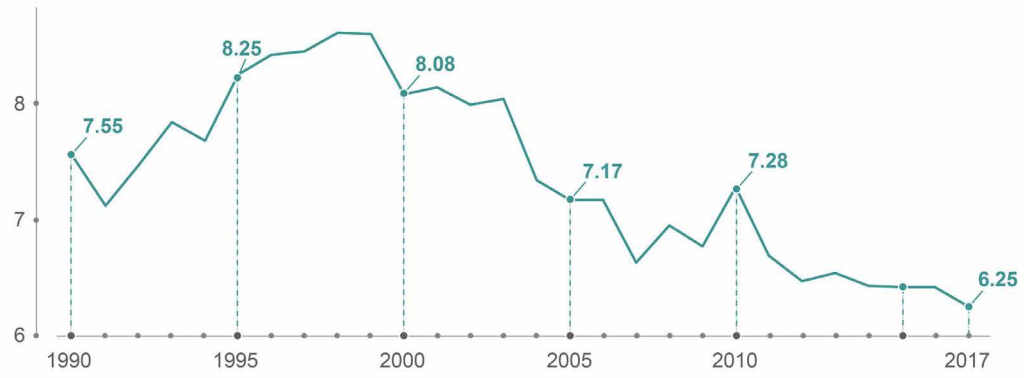





DGUV

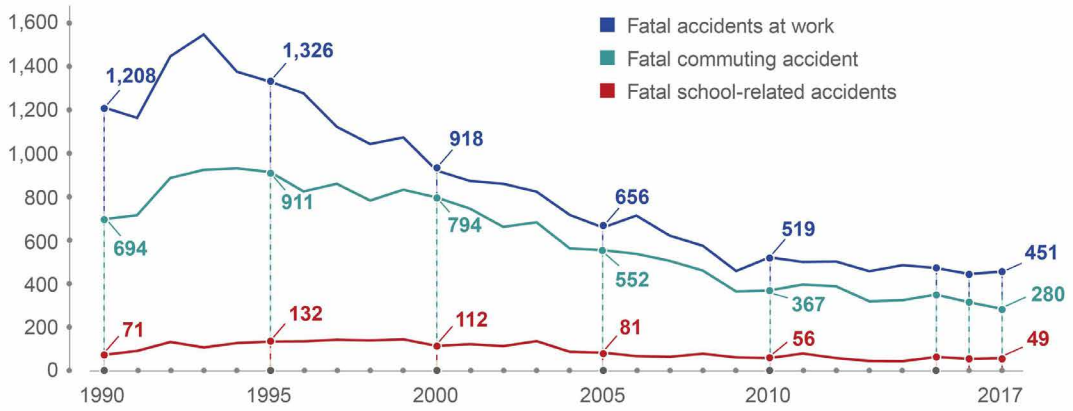
## Reportable school commuting accidents

per 1,000 students



DGUV

## Fatal accidents




Bollmann, IAG Training 03.07.2019 Seite 15

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

## IAG OSH Educational Programmes

DGUV

## DGUV Institutes

**Institute for Prevention and Occupational Medicine – IPA**
Bochum

**Institute for Work and Health – IAG**
Dresden

**Institute for Occupational Safety and Health – IFA**
Sankt Augustin

DGUV

## IAG training in figures (2018)

- Employees approx. **100**
- Participant days **49.221**
- IAG seminars **411**
- Events **256**
- Practical facilities **20**

MARTIN

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

# Target groups IAG

DGUV

## IAG conducts training for …

- Labour inspectors
- Safety professionals
- Master study (MSc / DIU)
- Occupational physicians
- Trainers
- International seminars

DGUV

## Impressions: training and events

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

## Focus: training of safety professionals

DGUV

## Safety professionals in the European Union

**Council Directive 89/391/EEC of 12 June 1989**

on the introduction of measures to encourage improvements in the safety and health of workers at work (89/391/EEC):

„… **the employer shall designate** one or more workers to carry out activities related to the protection and prevention of occupational risks for the undertaking and/or establishment." (chapter 7)



DGUV

## Safety professionals in Germany – legal background

- ✓ Occupational Safety Act (ASiG)
- ✓ DGUV Regulation 2

**Every employer must appoint** in writing

- Occupational physicians
- Safety professionals

(possible: external services)

DGUV

## Safety professionals - task

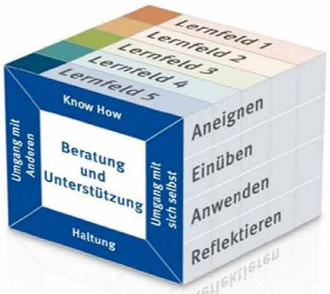
© Trueffelpix – Fotolia.com

to support the employer and other persons responsible for occupational safety and health at company level



DGUV

## Training for safety professionals: a long journey




obligatory; nationally uniform basis
exists since 1979
2001 New model
2009 – 2011 Revision of content
2017 – 2018 Development of a new competence profile
2018 – 2019 Pilot
until 2021 nationwide implementation

340 participants per year (IAG)

Sifa Fachkraft für Arbeitssicherheit · DGUV Deutsche Gesetzliche Unfallversicherung Spitzenverband · baua: Bundesanstalt für Arbeitsschutz und Arbeitsmedizin

DGUV

## Training for safety professionals: Leading question

**How** do the participants acquire their necessary competences **to be able to act** as safety professionals in accordance with their roles and requirements, and to do so successfully? (BAuA 2017)



DGUV

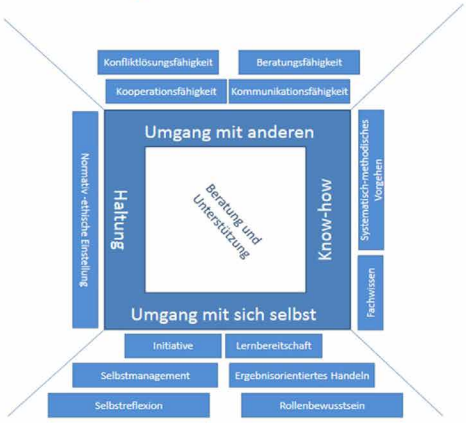
## Training for safety professionals: guidelines

1. Training based on the development of **competences**
2. Focus on **self-responsible learning**
3. **Work-related** approach
4. Selection of **methods and media that support active learner-directed learning**

(DGUV 2011)

DGUV

## Competences




Analysing the tasks of DGUV Regulation 2

⇨ **4 competence areas; 13 basic competences**

Competence areas:

- know-how
- dealing with other people
- dealing with oneself
- stance / attitude



DGUV

## Competence profile

**Dealing with oneself**
Initiative
Willingness to learn
Self-management
Self-reflection
Result-oriented action
Role-awareness

**Dealing with other people**
Conflict-handling skills
Communication skills
Cooperation ability
Consulting ability

**Know-how**
(next slide)

**Stance**
human / ethical attitude

DGUV

## Competence profile: Know-how

**Systematic and methodical approach**

analytical skills

good judgement

conceptual strength

problem-solving ability

holistic thinking

expert knowledge

knowledge orientation

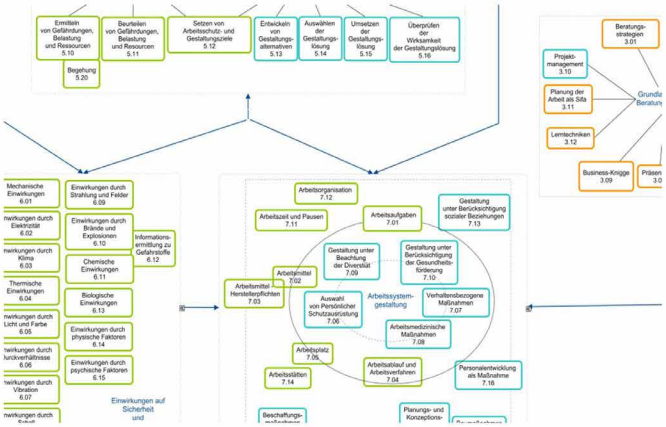
cross-disciplinary knowledge

- Allrounder, not a specialist
- Knows to identify not only risks, but also resources
- Analyses the working environment comprehensively
- Acts on the basis of the latest knowledge
- …



DGUV

## Basic knowledge modules



about 100 modules for self-directed knowledge acquisition

DGUV

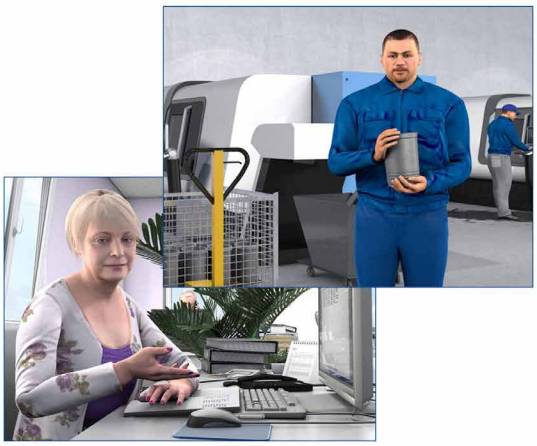
## Subject Areas: Systematic Approach

1. Introduction to the training; tasks of the safety professional
2. Work system and operational organisation
3. Assessment of working conditions
4. Design and planning of work systems
5. Integrate OSH into company structures and processes



DGUV

## Example: virtual metalworking company – main thread



***Real work situations*** in different areas:

- Production – Logistics – Cleaning –
- Open plan office – Gardening –
- Assembly activity - Road safety

***Simulation of the task*** in the seminar

***SOL:*** Conducting the task in-house, reflecting in the safety professionals learning world: learning blog and survey

DGUV

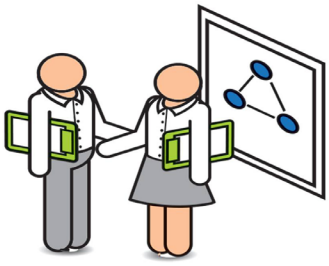
## Training for safety professionals 3.0: A world to learn

Integrates different learning spaces:
- seminar
- course on digital platform
- internship



DGUV

## The role of the learner



**Learner:**
- learn self-directed and self-responsible
- learn cooperatively and self-reflexively
- bring in your own practice and reflect it

DGUV

## The role of the learning facilitator

**Learning facilitator instead of teacher:**

- recognizes needs
- monitors and supports
- gives feedback
- is available as a person



DGUV

## Strengths of IAG OSH Educational Programmes

- **based on empirical research**, e.g. longitudinal study on safety professionals (Trimpop 2011); demand analysis for safety professionals (BAuA 2017)
- **based on latest educational findings**, e.g. systemic-constructivist didactics (Arnold 2012, 2018)
- **competence (and capability) oriented**, e.g. safety professionals are empowered in their acting (and being)
- **holistic approach**, e.g. safety professionals are assessing the working environment as a whole, taking mechanical, physical and psychological factors into account
- **systems approach**, e.g. safety professionals integrate safety and health in an organisations‘ systems and processes; analyse and support cultures of prevention in the company

DGUV

## Strategy of OSH Educational Programmes: Leading question

**Will we have professions in the future?**

Bollmann, IAG Training 03.07.2019 43

DGUV

## Strategy of DGUV OSH Educational Programmes

**Common strategic goal:**
Vision Zero based on the development of cultures of prevention

Pursued by the following approaches:

**Comprehensive approach**: safety and health

**Multidisciplinary approach**: safety and health professionals, occupational physicians, occupational hygienists, psychologists, educationalists

**Life-course approach**: all levels of education and training

**People centred approach**: empower people to shape the change within their organisations

Bollmann, IAG Training 03.07.2019 44

DGUV
Deutsche Gesetzliche Unfallversicherung
Spitzenverband

## Thank you very much!

02

# IOSH OSH Educational Programmes: Strength and Strategies

Mr. Alan Stevens
(IOSH, U.K.)

Institution of Occupational Safety and Health

# *IOSH OSH Educational Programmes: Strength and Strategies*

**Alan Stevens**
Head of Global Engagement and Partnerships

## What is IOSH?

**Professional body**
A not for profit organisation holding a Royal Charter that exists for the public good

**Thought leader**
Underpinned by research, expertise and understanding around occupational safety and health

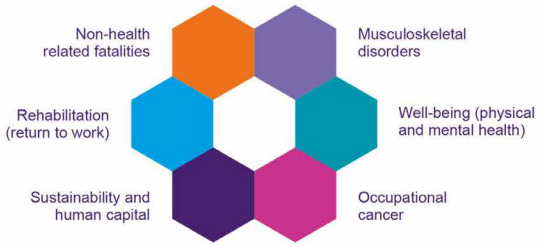
**Membership organisation**
Supporting a global network of 47,500+ members in 130 countries

**Enabler**
helping organisations around the world to excel in safety and health

# IOSH – what we stand for

## Our vision
A safe and healthy world of work

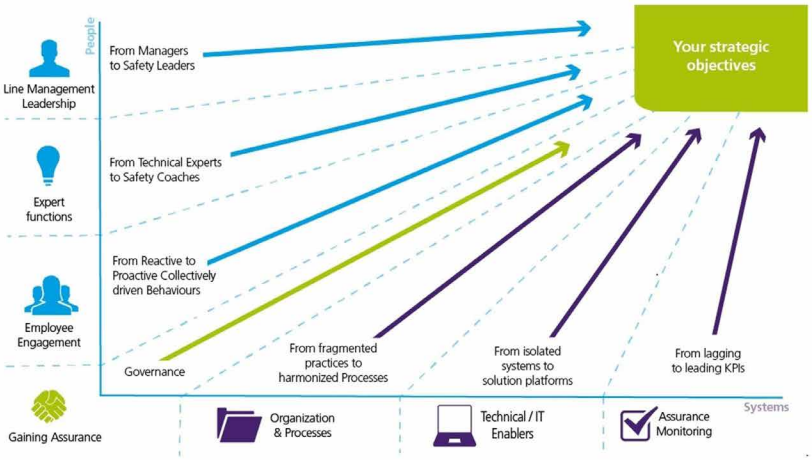
## Six Priorities




## Our strategy

# Real-world challenges

## How are organisations responding?

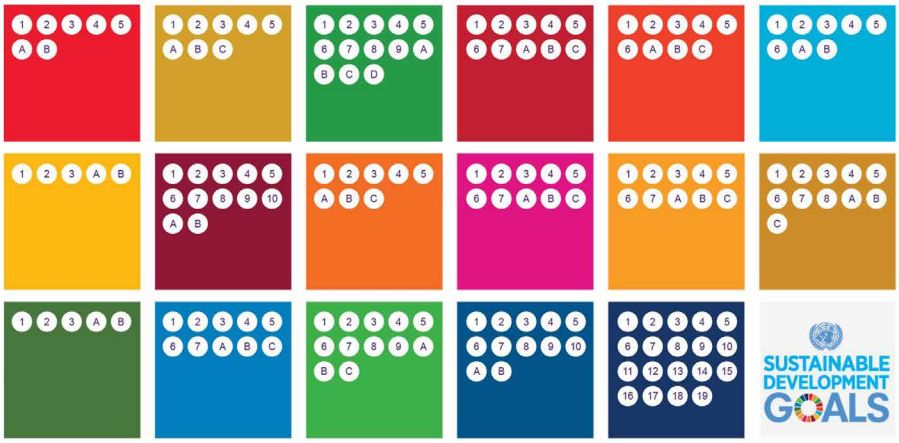


## UN Sustainable Development Goals

17 goals

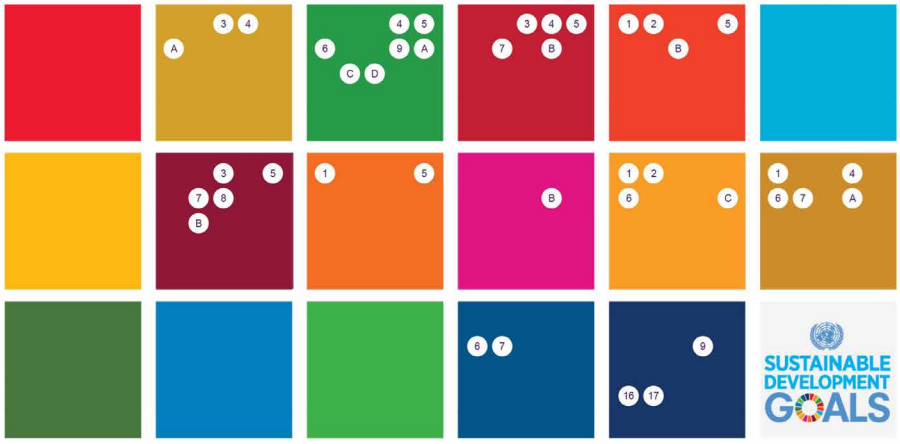
## UN Sustainable Development Goals

165 Targets



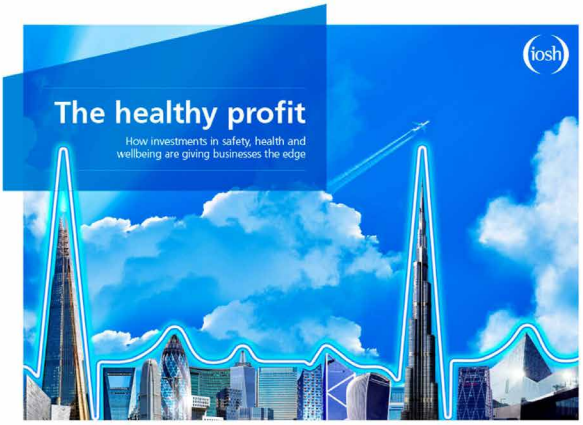
# UN Sustainable Development Goals

## 41 directly related to Occupational Safety & Health




# The healthy profit

## Our call to action to business




- Report highlights the investments being made by forward-thinking organisations
- An IOSH-commissioned survey found barriers exist for many businesses
- Investment in the safety and health of a workforce should be a core strategic aim
- Transparency and openness in reporting on OSH performance

# Training and skills courses

# Competence, confidence and productivity

## Good sense for good businesses

- Managers equipped with the competence and confidence to be more effective
- A healthier and more productive workplace
- Improved, organisation-wide health awareness culture
- Enhanced reputation with supply chain, customers and other stakeholders

## IOSH courses

- Support the role of Safety and Health Professionals
- Are based on an international standard
- Focus on 'general principles' applicable to all countries
- Enable customers to add in organisational, cultural and legislative specific content
- Focus on the positive affects of Safety and Health and not just the 'worst case scenario'
- Focus on making business better and all individuals more effective

## IOSH solutions

iosh Training and Skills™

Executive Education

# *IOSH Leading Safely*

## Purpose – to support leaders to:

- ✓ Develop a strategic understanding of the value of safety and health
- ✓ Understand good practice from leading global organisations
- ✓ Understand where to position their organisation's safety performance against other organisations and plan for implementation
- ✓ Understand their operational responsibilities and the opportunities of good performance, as well as the consequences of poor performance.

# Models of Safety

| Embryonic | Active | Proactive | Integrated |
|---|---|---|---|
| • Safety by natural instinct<br>• Aspiration to achieve compliance<br>• Commitment to taking action, including investigations and event reviews, after an incident or failure has occurred<br>• Concerns regarding fines are commonplace<br>• Systems and procedures to manage safely are emerging<br>• Technical OSH expertise engaged on an 'as and when' basis<br>• Limited understanding of business risks around OSH<br>• Workforce OSH training needs are identified on an 'as and when' basis<br>• Leadership behaviours evident after an incident or failure | • Compliance is the main goal and it is achieved<br>• Management commitment to OSH<br>• Systems used to control and enforce OSH practices<br>• People implement, enforce and follow systems, rules and procedures<br>• Recruitment of safety manager who has sole responsibility for OSH<br>• Working Safely is a condition of employment<br>• Training provided to work within the system<br>• Safety as a policing activity<br>• All risks are equal<br>• Leadership behaviours tend to focus on enforcing compliance rather than driving improvement | • A culture that promotes personal knowledge, responsibility and standards<br>• All business decisions consider OSH perspective in advance<br>• A focus on preventing what might go wrong in the future<br>• Positive behaviours and beliefs are encouraged and recognised<br>• Continuous improvement input on OSH from all levels<br>• OSH 'mainstreamed' as part of all job roles<br>• Safety team focus on assurance rather than policing<br>• Awareness of risk profile differentiation is emerging<br>• Contractors are rated in terms of safety records, not on lowest price<br>• Strong Visible Felt Leadership behaviours are seen throughout | • A pragmatic, business-focused and challenge-based culture drives innovation in processes and approaches<br>• Safety and health is clearly linked to return on investment and to commercial indicators such as cost savings and new sources of revenue<br>• The brand equity of the business is derived from its approach to OSH<br>• Risk profile differentiates between operational and significant risks and drives focus on major risks<br>• OSH governance is integrated within a broader organisational governance framework<br>• The safety team is viewed as an enabling function, driving broader business value<br>• OSH governance extends right to the furthest reaches of the supply chain<br>• OSH is placed against the broader context of the organisation and across the entirety of the value chain<br>• OSH is seen as part of a broader sustainability strategy<br>• Strong Visible Felt Leadership behaviours are evident through all layers of the organisation and are credible and impactful |

©IOSH 2016

## IOSH solutions

iosh Training and Skills™

Management Education

## *IOSH Managing Safely*

To support managers and supervisors:

- ✓ Describe the key reasons to manage safety and health in the workplace
- ✓ Define key terms relating to safety and health
- ✓ Identify how the law can impact safety and health in the workplace
- ✓ Describe how to access, reduce and control risk in the workplace
- ✓ Identify workplace hazards and risks, their impact and how to manage them
- ✓ Identify how to evaluate and respond to incident
- ✓ List benefits and characteristics of an effective health and safety management system
- ✓ Describe principles that underpin good safety and health

# *Fire Safety for Managers*

- Designed for managers and supervisors in any sector and in any organisation worldwide
- Provides the knowledge and tools required to tackle fire safety issues

**Case study**

In Powys, Wales in 1989, a fire was started by arsonists at a tyre dump. The fire spread to all 10 million tyres stored there which were packed so tightly together that firefighters were unable to extinguish the blaze. The fire continued to smoulder within the dump for 15 years.

**Case study exercise**

Coldcastle Importers Ltd. is an import/export company employing 85 workers. The company has been owned and operated by the same family since 1948. It occupies a three-storey building: the ground floor is dedicated to shipping and receiving; the middle floor is dedicated to warehousing and packaging; and the top floor is where the administrative offices are located. Thirty-five of the 85 staff work on the top floor doing administrative work or sales, and one of these is a disabled person who uses a wheelchair. The electrical system is old and out of date. Although the company has the mandatory occupational safety and health policy, it does not address fire safety issues.

The premises are old and the company is considering moving to another location as the current location is frequently overfilled with stock. The company frequently receives consignments that arrive by container. The consignments are photographed, catalogued, marketed, sold, packaged and reshipped.

There is a freight lift that services the upper floors. There are two stairwells for pedestrian traffic. Electrically powered forklift trucks are used to move heavy goods on the ground floor. The forklift trucks are recharged in the evening, but sometimes overload the circuit breakers, causing them to disrupt the current.

Hazardous chemicals (solvents) are used for cleaning on the middle floor. There may be safety data sheets stored somewhere in the administration offices. Housekeeping is a significant issue and oily rags are often left lying around.

Many cardboard cartons and wrapping materials are received [illegible] discarded on the ground floor. Because of the volume [illegible] sent, there is no storage space and the passage[illegible] frequently blocked with waste material [illegible]

**Fire risk assessment form** — iosh Training and Skills

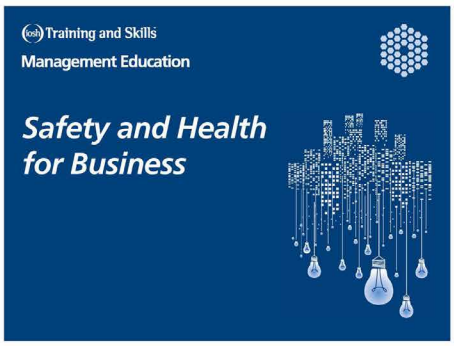
| Name of assessor | | Date | |
|---|---|---|---|
| Time | | Work area | |
| Task being assessed | | | |

| What is the fire hazard? | Who might be harmed | How might people be harmed? | Existing risk control measures | Risk Rating | | | Additional controls | New (residual) risk rating | | | Action by when & whom? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L | C | R | | L | C | R | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

**For safer and healthier working environments**

# IOSH Safety and Health for Business
## Level 3 Certificate Qualification

- A recognised qualification
- Strong business focus
- Vocational style learning and assessment methods including:
  - Business Case Writing
  - Research Project
  - Presentation
- Inclusion of both technical knowledge and soft skills essential to business
- Route to IOSH membership




**For safer and healthier working environments**

## IOSH solutions

iosh Training and Skills™

Core Skills

## *IOSH Working Safely*

Purpose – to support all workers to:

- ✓ Describe the key reasons to manage safety and health in the work place
- ✓ Define key terms in safety and health
- ✓ Identify why it is important to work safely
- ✓ Identify everyone's responsibilities in relation to safety, health and wellbeing in the workplace
- ✓ Identify workplace hazards and risks, their impact and how to control them
- ✓ Identify ways safety, health and wellbeing is managed and improved within the workplace

# Fire Safety Awareness

Everyone at work has a duty to prevent fires. A fire safety culture is based on a shared set of positive attitudes, knowledge, perceptions and beliefs about fire prevention and fire protection.

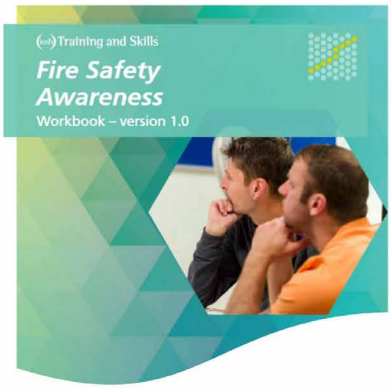
- Sits within the 'Core Skills' category, alongside Working Safely, and is designed for both a UK, and an international audience.


Module one:
Effective Fire Evacuation 5

Module two:
Roles and Responsibilities in a Fire Emergency 13

Module three:
Fire and Fire-fighting Equipment 19

Module four:
Identifying Workplace Fire Hazards 29


**For safer and healthier working environments**

# Key features of IOSH courses

- Use in-company risk assessment forms.
- Flexibility to add in content to meet client needs.
- Global case studies to tailor the product.
- Bank of current videos to choose from.
- Draw on IOSH campaigns, including statistics and best practice advice.
- More support information for Trainers.
- Supports the implementation of 45001.

# Thank you

03

# Singapore's WSH Educational Programmes

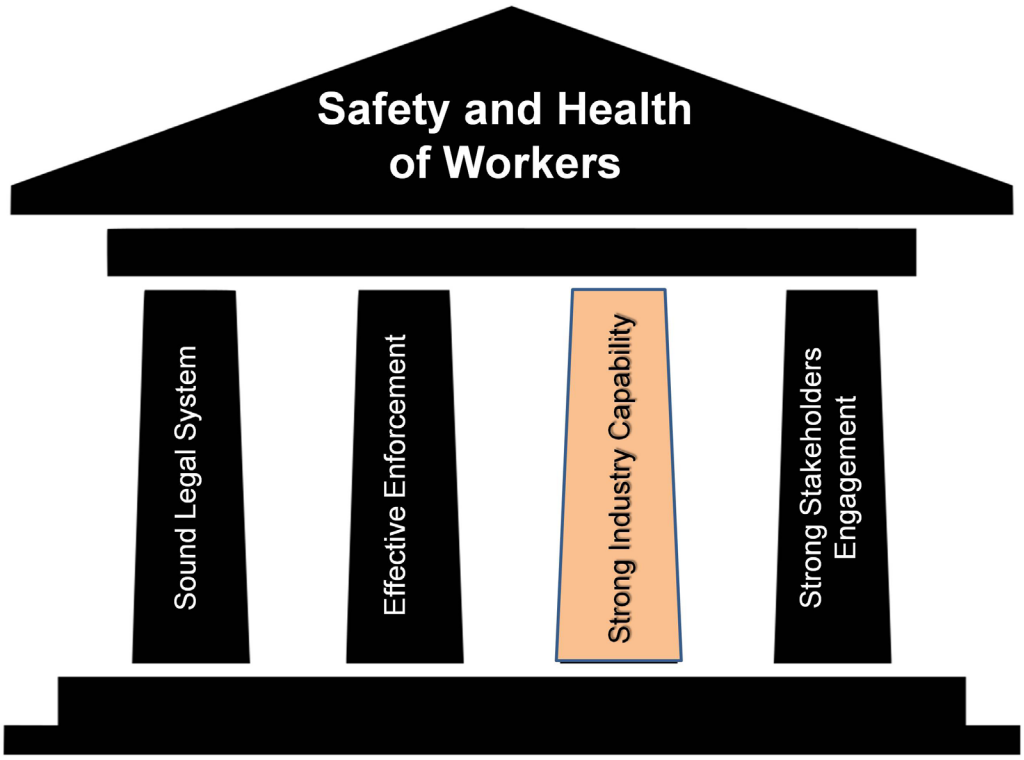
Mr. Silas Sng
(MoM, Singapore)

MINISTRY OF MANPOWER

WSHCOUNCIL

# Singapore's WSH Educational Programmes

**Silas Sng**
**Divisional Director, Occupational Safety and Health Division**




Pg 2

# 3 types of WSH courses

**Industry-based Courses**

Developed at Worker, Supervisor & Manager levels
Eg.
Worker-level:
- WSQ Apply WSH in Construction Sites

Supervisor-level:
- Shipyard Supervisors Safety Course

Manager-level:
- Safety Instruction Course for Ship Repair Managers

**Skill-based Courses**

Eg.

- Work-At-Heights Courses
- Commercial Diving Courses
- Rigger and signalman

**Professional Courses**

Eg.

- WSQ Advanced Certificate in WSH
- WSQ Specialist Diploma in WSH
- WSQ Graduate Certificate in WSH

Under our laws, workers must be trained before undertaking specific jobs / tasks.

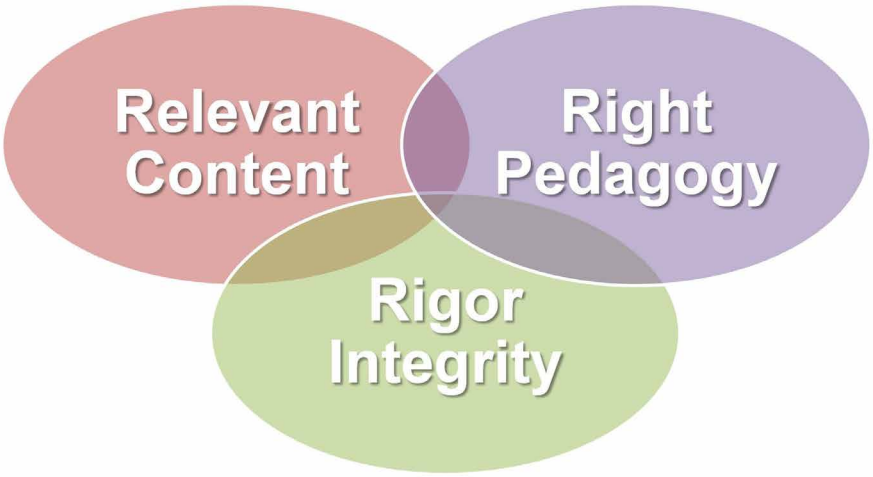
Pg 3

# Some Statistics

1. ~ 100 training providers covering 56 WSH courses
2. > 200,000 training places per year
3. ~ 5,000 WSH Professionals

Pg 4

# Achieving Training Effectiveness




Pg 5

# Curriculum Development

- WSH Courses are developed with industry partners taking into account existing or emerging skill requirements
- Process of industry consultation and validation by the industry committees
- Course are periodically reviewed and updated.

Pg 6

Rigor
Integrity

# Accreditation & Certification

Right
Pedagogy

Training Providers are required to be:

- Certified under Singapore Accreditation Council Learning Service Providers (LSPs) scheme (ISO 29990:2010);

and / or

- Approved by SkillsFutures Singapore (SSG) to conduct nationally recognized Workforce Skills Qualification WSQ courses;

TPs are subjected to periodic audits and renewal.

Pg 7

# For WSH Professionals

**Level D**
Graduate Certificate in WSH

**WSH Auditor** to evaluate, observe and make suggestions to improve effectiveness of WSH management systems.
- WSH (Safety & Health Management System & Auditing) Regulation 9

**Level C**
Specialist Diploma in WSH

**WSH Officer** to identify, assess, control and manage WSH risks; and develop, implement, maintain and improve WSH management systems and culture.
- WSH (WSH Officer) Regulation 9

**Level B**
Advanced Certificate in WSH

**WSH Coordinator** to coordinate and monitor the implementation of WSH management systems for recognition, assessment, control and management of WSH risks.– WSH (Construction) Regulation 7

**Level A**
Certificate in WSH

**WSH Representative/Promoter/Advocate** to implement WSH risk control measures and management systems at workplace.
- WSH (WSH Committee) Regulations

Pg 8

## Key Challenges

| | |
|---|---|
| Self | Staying relevant in an ever changing operating environment |
| Workers | Protecting migrant workers coming from diverse cultural background |
| Employers | Battling a compliance mindset |

Pg 9

## Our approach

| | |
|---|---|
| Self | Embrace a culture of lifelong learning.<br>Continuous professional development. |
| Workers | Help migrant workers “settle in”.<br>Look into salary & welfare issues. |
| Employers | Make WSH more salient in business decisions.<br>Emphasize that WSH is the mgt’s responsibility not solely the WSH Officer’s. |

Pg 10

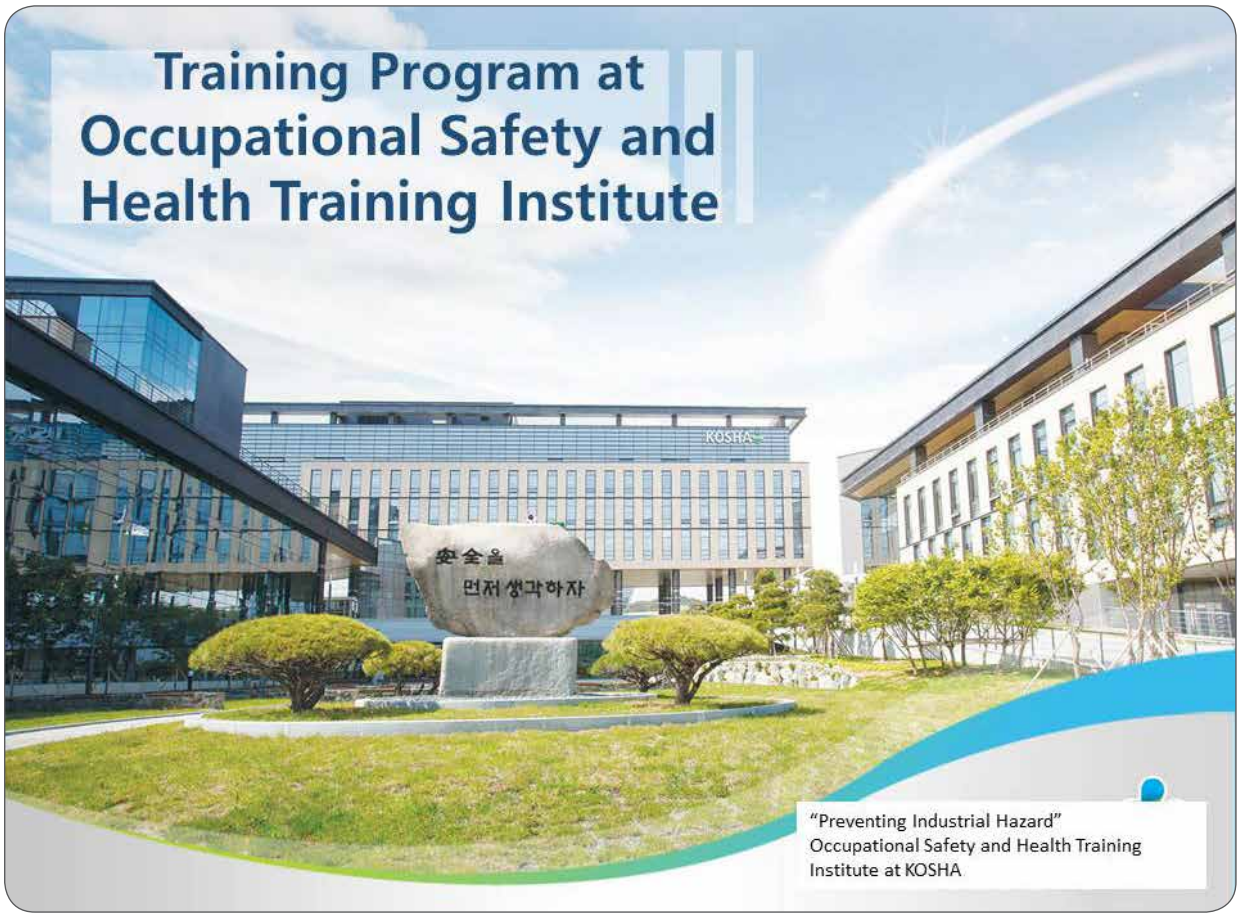
# Thank You

Pg 11

04

# Training Program at Occupational Safety and Health Training Institute

Mr. Youngbok Bae
(OSHTI, KOSHA)




"Preventing Industrial Hazard"
Occupational Safety and Health
Training Institute at KOSHA

I General Status of Training Institute

II Major Project at Training Institute

III Training Course in Detail

IV Plans for 2019 Course Development and Future Development Directions

V Q & A

Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

# Ⅰ. General Status of the Institute

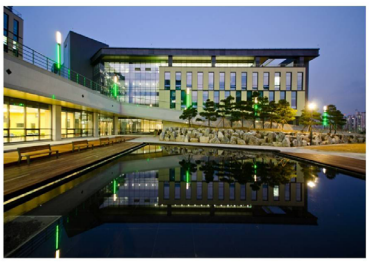
Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

## Ⅰ. General Status of the Institute

| | |
|---|---|
| Date of Founda-tion | Founded on December 9th, 1987 in compliance with Occupational Safety and Health Industrial Complex Act (Law No.3931, May 30th, 1987) |

| | |
|---|---|
| Purpose of Founda-tion | To provide knowledge, technology, practical case studies and on-the-job training on industrial safety and health to people in the field so as to nurture their job skills and prevent industrial hazard. |



Korea Occupational Safety & Health Agency

# Ⅰ. General Status of the Institute(Strategy & Goal)

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

Collective Training (84 courses 8,950 trainees) → Blended Learning (Blending over 2 learning methods) ← E-learning (2 courses 80,000 trainees)

**Collective Training**
- Running courses for preventing accidents and deaths
- Reflecting government policy and health & safety issues
- Running courses specialized in safety & health experts both internally and externally

**e-learning**
- Running people-centric 'Safety & Health MOOC'
- Strengthening customized training fit for laborers and people in need
- Expanding online training for special employment status and platform workers

**SH Training Support**
- Establishing T-C training site, expanding Training site at Central Region and infrastructure
- Strengthening training courses and feedback
- Improving quality of education with higher capacity of lecturers
- Pushing to build KOSHA comprehensive training system

Taking suggestions of civilians and voc and running feedback system Running committee(QUARTERY) system → Developing COI & People-centric training course system and Running ← Establishing learning service management system and acquiring ISO 29990 certificate and maintaining

*CQI(Continuous Quality Improvement) : System for offering feedback on problems and continuing to improve the quality of education

Serving key functions for preventing industrial hazard, **with safety & health education putting people's life at the forefront**

Korea Occupational Safety & Health Agency

# Ⅰ. General Status of the Institute

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Quantity of the Project

| Title of the Project | | 2019 Plan(A) | 2018 Plan(B) | Change(A-B) | Note (2018 Results) |
|---|---|---|---|---|---|
| **Total** | | **88,950** | **79,505** | 9,445 | 189,160 |
| Collective Training | Job Training | 2,470 trainees | 550 trainees | 1,920 trainees | 667 trainees |
| | Candidate Training | 280 trainees | 305 trainees | Increase by 25 | 320 trainees |
| | Specialist Training | 5,175 trainees | 7,060 trainees | Increase by 1,885 | 7,889 trainees |
| | Special Training | 1,025 trainees | 590 trainees | 435 trainees | 1,215 trainees |
| | Specialized Capacity-building Training | On demand | 1,000 trainees | - | 1,493 trainees |
| E-Learning | | 80,000 trainees | 70,000 trainees | 10,000 trainees | 177,576 trainees |
| Course for Safety & Health CEOs | | 1 time | 1 time | - | - |
| Course for Safety & Health Specialists at SME | | 1 time | 1 time | - | - |
| Open Campus(Safety) | | 1 time | 1 time | - | - |

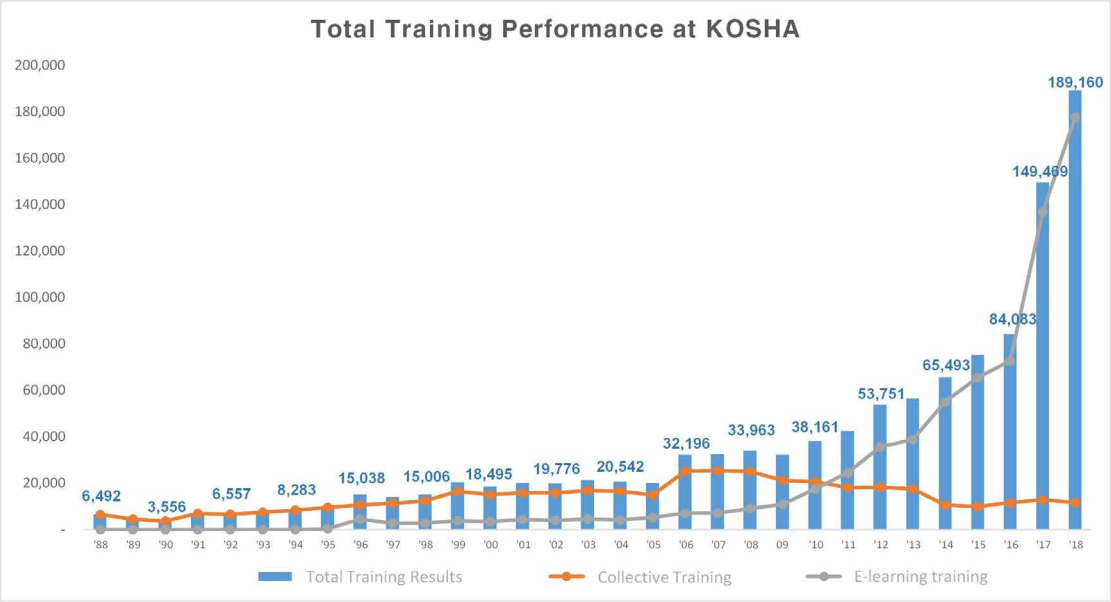
**2019 Budget : 3,479million(※ Separate budget worth 5,863 million for establishing Tower crane training site)**

Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

# Ⅰ. General Status of the Institute

- **Yearly Results: 1,122,636 trainees in total (1988~2018)**




Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

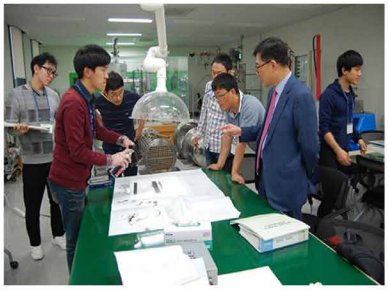
# Ⅱ. Major Project at the Institute

Korea Occupational Safety & Health Agency

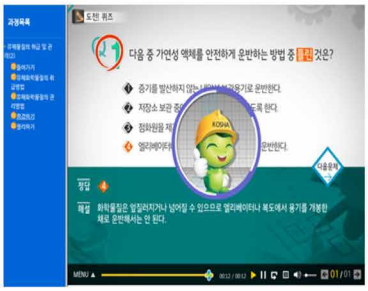
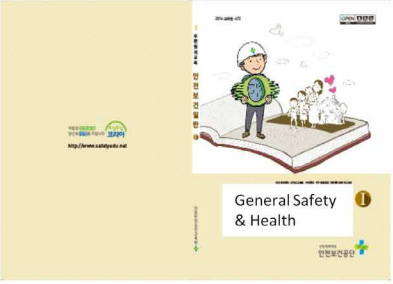
## Ⅱ. Major Project at the Institute

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

- **Collective Training : 82 courses 11,584 trainees (As of 2018)**



- **E-learning Training : 3 courses 177,576 trainees (As of 2018)**

Korea Occupational Safety & Health Agency

## Ⅱ. Major Project at the Institute

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

| Job Training | Candidate Training | Specialist Training | Special Training | Internet Training |
|---|---|---|---|---|

- In accordance with Article 32 of Occupational Safety & Health Industrial Complex Act

- In accordance with Section 2, Article 36 of Occupational Safety & Health Industrial Complex Act
- Targeting inspectors monitoring work site hazards, machinery hazard, etc.

- Targeting safety managers, health managers and management supervisors
- Specialist Training on safety engineering & management, construction safety and industrial health

- Targeting Inspectors at MOEL, executives at labor union, teachers at vocational schools

- (Internet Job Training) Safety & Health management supervisors, safety managers, health managers
- (Internet Remote Training) Management supervisors, prospective trainees, etc.(Customized Training)

Korea Occupational Safety & Health Agency

## Ⅱ. Major Project at the Institute

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

**Safety & Health Chief Officer Course**

- Targeting CEOs, executives and senior government officials
- Contributing to safety-first culture by raising awareness at C-level

* running training institute with the Catholic University of Korea and University of Ulsan * 1year course(22weeks, Once a week for night time, 19:00~21:30)

**SME Safety & Health Expert Course**

- Targeting safety & health-relate officials at SMEs
- Giving Financial support for Industrial Safety & Health contract departments and encouraging Master's Degree

* 3.3 million support per semester for one person (5 semesters in total)

**Open Campus (Plus Safety Sympathy+)**

- Targeting local students (Junior & Senior students at University of Ulsan
- Running cyber basic training and on-the-job training to nurture safety & health workforce *

'March.7 2019 ~ June 20. (Every Thursday 16~18시)/TBD for the second half of 2019 after coordination

* Class is given on a biweekly basis at University of Ulsan and Training Institute

Korea Occupational Safety & Health Agency

## Ⅱ. Major Project at the Institute

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

| | Training Course | Target | Course in Detail(2019) | Benefits after completion |
|---|---|---|---|---|
| Collective Training | Job Training Course Article 32 of Occupational Safety& Health Industrial Complex Act | Employees at specialized agency | 4 areas 8 courses 2,470 trainees (Those working for Safety & Health-specialized agency, Asbestos management agency and Hazard prevention guidance agency) | Legal Job Training( Conducted on Oct 28, 2016) |
| | Candidate Training Course Article 36 of the Law | Officials in charge of self-inspection | 7 courses 280 trainees (Press, Shearer, Crane, Tower crane, Chemical facility, Pressure container, Ship-building facility, Local ventilation system, Lift & Gondola) | Give qualification for safety inspection |
| | Safety & Health Training Regulation (Since 1988) | Safety & Health-related Officials Management Supervisors | . Total : 57 course 5,175 trainees<br>. Safety Management: 7 courses 825 trainees<br>. Safety Engineering: 16 courses 1,765 trainees<br>. Construction Safety: 12 courses 960 trainees<br>. Industrial Health: 22 courses1,625 trainees | Legal Training as complete Regular Training exempt |
| | Special Training (Institute's own) | Management Supervisors Reserve Industrial Personnel Supervisors at MOEL | . 7 Courses 1,025 trainees (MOEL Industrial safety supervisors, Labor union executives, Worksite Safety & Health Trainers, Teachers at Vocational High school, etc.) | Regular Training exempt |
| | Capacity-building Course | Internal & External Safety/Health Experts | . All the time On Demand(Specialized, Professional Long-term Training Course) | Nurturing Safety & Health Experts |
| E-learning | Internet Job Training Communication Training | Officials in charge of Safety & Health Safety & Health-related Officials Management Supervisors Reserve Industrial Personnel | . Total : 2 courses 80,000 trainees<br>. Internet Job Training : 1,200 trainees<br>. Internet Remote Training: 78,800 trainees | Regular Training exempt |
| Cooperation | Cooperation Course | Chief Safety & Health Officer Course Safety & Health Personnel at SME Open Campus(Plus Safety Sympathy) | . 3 courses 3 times (CEO, SME officials) | Nurturing Experts |

Korea Occupational Safety & Health Agency

## Ⅱ. Major Project at the Institute

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

| Training | Course | Trainees | Training Hours | Content |
|---|---|---|---|---|
| Job Training | · Officials at S&H Institute Job Training New(BL), Refresher | · Officials at S&H Institute | · New : 34hours (Collective Training 24, Cyber 10) · Refresher : 24hours | · Occupational Safety & Health Act and Policy Direction · Disaster Cases by Area · Worksite Safety Management Methods & Hands-on · Risk Assessment, etc. |
| | · Officials at Health Institute Job Training New(BL), Refresher | · Officials at Health Institute | | |
| | · Officials at Disaster Prevention Job Training New(BL), Refresher | · Officials at Disaster Prevention | | |
| | · Officials at Asbestos Investigation Institute Job Training New(BL), Refresher | · Officials at Asbestos Investigation Institute | | |
| Candidate Training | · Press·Shearer · Crane, Tower Crane · Chem Facility·Pressure Container · Shipbuilding facility, Local Ventilation System | · Those inspecting worksite hazard & machinery risks | 28 hours (3 nights 4 days) | .Hands-on Training with Machinery / Facility subject to Inspection |
| Specialist Training | · Safety Management(7) | · Worksite S&H Managers, Supervisors, etc. | 11 hours~36 hours (2 nights 3 days ~ 4 nights 5 days) | · Experiment/Hands-on Training by Industry, Processing and Disaster Factors |
| | · Safety Engineering(16) | | | |
| | · Construction Safety(12) | | | |
| | · Industrial Health(22) | | | |
| Special Training | Workshop for Vocational High School Teachers, Labor Union Executives Training, MOEL Supervisor Training, Worksite S&H Officials Workshop | · Vocational High School Teachers, Labor Union Executives, MOEL Supervisors, Worksite Officials, etc. | 20 hours~73 hours (2 nights 3 days ~ 8 nights 10 days) | · Running customized course based on pre-coordination with subject institution (Industrial S&H Basics, etc.) |

Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

# Ⅲ. Course in Detail

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

### Job Training(8 courses)

◯ No of Trainees : 2,470 trainees(84 times × 15~25 trainees)

◯ Target : S&H Professional Guidance Institute, Disaster Prevention Professional Guidance Institute, Asbestos Institute

◯ Course

- Job Training for S&H Management Officials (New, Refresher)
- Job Training for Personnel at Disaster Prevention Professional Guidance Institute(New, Refresher)
- Job Training for Personnel at Asbestos Institute (New, Refresher)

◯ Content

- Experiment, Hands-on Training for S&H Policy Direction, Related Laws and Disaster Prevention

  * New Training(24 hours), Refresher Training(34 hours)

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

### Candidate Training(7 courses)

◯ No of Trainees : 280 trainees (14 times × 20~25 trainees)

◯ Target : Safety Personnel handling hazardous machinery on worksite, etc.

Process for qualifying inspectors in accordance with Section 2, Article 26 of the Occupational S&H Act

◯ Major Content

- Press & Shearer Inspectors
- Crane Inspectors
- Tower Crane Inspectors
- Chemical Facility Pressure Container Inspectors
- Shipbuilding Facility Inspectors
- Local Ventilator Inspectors
- Lift & Gondola Inspectors

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Specialist Training(Safety Management/ 7 courses)

○ No of Trainees 825 trainees(55 times × 20~25 trainees)

- 3 to 4 times depending on demand by each course, 12 times at maximum

○ Target : Safety Management Officials onsite, Safety Managers, Management Supervisors, Prospective Inspectors with KOSHA 18001 qualification

○ Major Content

- Qualification for Worksite S&H Lecturers
- Nurturing KOSHA 18001 Evaluator (Construction, e
- KOSHA 18001 Accreditation (Construction, etc.)
- KOSHA 18001 Internal Evaluation (Construction, e
- Nurturing Safety Culture Leader on Worksite
- Safety Mind Coaching
- Course for Nurturing Risk Assessment Experts

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Specialist Training(Safety Engineering/ 16 courses)

○ No of Trainees : 1,765 trainees(145 times × 20~25 trainees)

- 3 to 4 times depending on demand by each course, 16 times at maximum

○ Target : Worksite Safety Manager, Safety Personnel, Supervisors, Laborers, etc. Training for improving safety management in manufacturing and preventing major industrial accidents resulting from fire, explosion and poison leakage

○ Major Content

- Grounding Work for Preventing Electric Disasters
- Nurturing Experts handling electric facility on at-risk explosion site
- Safety Expert in forklift and aerial work platform
- Expert in hanging string
- Expert in writing and evaluating work safety report
- Analysis on chemical accidents and preventive measures
- Safety at research lab
- Work on writing plans on how to prevent hazards an risks in the manufacturing sector

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

### Specialty Training(Construction Safety / 12 courses)

○ No of Trainees : 960 trainees(50 times X 25~30 trainees)

○ Target : Safety Manager on Construction Site, Safety Personnel, Management Supervisors, etc.

○ Major Content

- Temporary Construction Safety
- Molding Supporting Post Structure Safety
- Excavation Construction Safety
- System on Preventing Crash-related Disaster
- Super-tall Building Construction Safety
- Safety Manager on Construction Machinery(Equipment) causing many deaths

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

### Specialist Training (Industrial Health/ 22 courses)

○ No of Trainees : 1,625 trainees (95 times X 20~25 trainees)

○ Target : Doctors on Industrial Worksite, Health Managers, Nurses, etc.

○ Major Content

- Handling emotional labor and work-related stress
- Design & Maintenance on Local Ventilators
- Investigating hazards for preventing musculoskeletal diseases
- Mental Health at Workplace
- Supervisors for Asbestos Removal
- Hands-on Work on Noise Control
- Hands-on Work on preventing backache when carrying materials
- Program on keeping a sense of hearing
- Program on protecting respiratory system

Korea Occupational Safety & Health Agency

# Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

## Hazard and Operability Analysis(HAZOP)

○ No of Trainees : 150 trainees(6 times × 25 trainees)
○ Target : Safety officials & Supervisors, Prospective trainees(Production in chemical factory, personnel in tech, Engineering designers)
○ Content for Proposal
- Introduction to Process Safety, Introduction to Risk Assessment, Research on HAZOP methods, Case Study,
Batching Practice, Continuous Practice, General Practice, Case study on Qualitative Risk Assessment

Korea Occupational Safety & Health Agency

# Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

## Analysis on chemical accidents and Disaster Prevention Measures

○ No of Trainees : 60 trainees(3 times × 20 trainees)
○ Target : Personnel at Professional S&H agency, Worksite S&H Supervisors & Managers, Workers in the relevant field, Prospective Trainees
○ Major Content
- Theory on Accident Investigation(Methods), Investigation Methods, Fire Explosion Detection, Preparation and Response to Emergency, Analysis on Chemical Accident Cases

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

### Super-tall Building Construction Safety

○ No of Trainees : 75 trainees(3 times × 25 trainees)

○ Target : Safety Managers and Supervisors on Construction Site, Those placing order, Supervisors, Officials related to Super-tall Building Construction, etc.

○ Content for Proposal

- Introduction to Super-tall Building Construction, Plans for building Super-tall Building, Plans on Safety Management at Super-tall Building Construction, Analysis & Discussion on Super-tall Building Disaster

Korea Occupational Safety & Health Agency

## Ⅲ. Course in Detail

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

### Tunnel & Bridge Construction Safety

○ No of Trainees : 50 trainees(2 times × 25 trainees)

○ Target : Personnel at Construction Disaster Prevention Agency, Construction Site Safety Managers & Supervisors, Those placing order, Supervisors, etc.

○ Content for Proposal

- Methods for improving process efficiency, Introduction to Bridge Construction, Analysis on Construction Machinery Safety and Cases,

Introduction to Tunnel Construction, Blasting Safety, Tunnel Excavation(NATM methods)Safety, On-site Practice at Tunnel & Bridge(Onsite Visit), Analysis and Discussion on Onsite Training, Analysis and Discussion on Disaster Case

Korea Occupational Safety & Health Agency

# Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

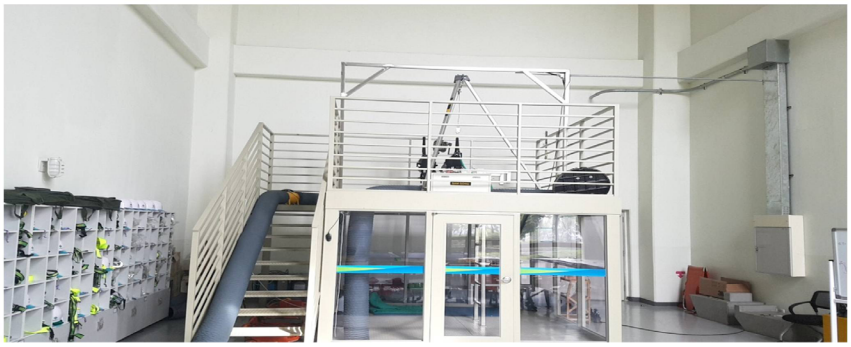
## Closed Space Work Safety

○ No of Trainees : 325 trainees(13 times × 25 trainees)

○ Target : Worksite S&H managers, Supervisors, Workers, etc.

○ Content for Proposal

- Laws and Basic Knowledge on Preventing Suffocation Disaster, Practice on Disaster Prevention in Closed Space, Presentation & Discussion





# Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Training Evaluation System

**Training Evaluation Stage & Characteristics**

| <Stage 1> | | <Stage 2> | | <Stage 3> |
|---|---|---|---|---|
| **Evaluation on Training Satisfaction** (Post-training) | ⇒ | **Evaluation on Learning Achievement** (Post-training) | ⇒ | **Evaluation on Application at Work** (3 months after Training) |
| · Satisfaction, Learning Outcome<br>· Satisfaction on Training Books & Lecturers | | ·Evaluation with Test on Training Content | | ·The Level of Application at Work<br>·Influence Factors in Application, etc. |

- **Three Stage Evaluation based on Kirkpatrick Model**
- **Total Online Methods (Utilizing Survey Monkey Platform)**
- **Real-time Analysis on Evaluation Outcome and Sharing**

Korea Occupational Safety & Health Agency

# Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Training Evaluation System

**Results on Training Satisfaction in Q1 2019**

| Year | Total Average | Training Satisfaction | | | | | | Training Effects | | | | Average per lecturer |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Content | Lecture | Facility | Operation | Books | General | Level of Understanding | Improving Job skills | Willingness to apply | Safety Awareness | |
| 2018 | 4.56 | 4.60 | 4.56 | 4.61 | 4.55 | 4.45 | 4.54 | 4.54 | 4.53 | 4.56 | 4.58 | 4.59 |
| **2019 Q1** | **4.60** | **4.60** | **4.60** | **4.62** | **4.59** | **4.51** | **4.57** | **4.56** | **4.54** | **4.58** | **4.58** | **4.65** |

Korea Occupational Safety & Health Agency

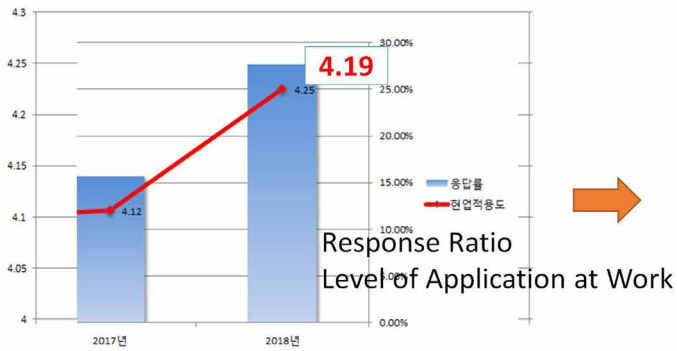
# Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Training Evaluation System

**Evaluation Outcome for Application at Work in the 2nd half of 2018**

- Evaluation Target : 59 Collective Training Courses in the 2nd half of 2018
- Evaluation Method : Mobile Survey three months after completing training course
- No of Respondents : 1,008 trainees(Response Ratio at 24.7%)




**4.19 points in 2018**
**0.07 point increase compared to 2017**

Korea Occupational Safety & Health Agency

# Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Training Evaluation System

### Analysis on VOC(Voice of

Improving Classroom Environment
Improving temperature at Classroom
Positive Opinion
Running Training by Industry / Job
1 room per person at Dormitory
Expanding Training in Metropolitan Areas
Expanding Training at Ulsan
Negative Opinion
Running Training Course fir for individual level
Providing Negative Opinion(Central Training Center)
Uncomfortable Desks
Expanding Practice Equipment
Expanding Training Period
Narrow Classrooms
Improving the Quality of Meal
Utilizing Audio-Visual Materials
Expanding Discussion
Communication Difficulty
Others
Expanding Dormitory
Adjusting the timing of training
Improving Training Content
Improving how training is run
Case-centric Training
Expanding Practice
Sharing training materials
Running Cafeteria(Central Training Center)
Providing Snack & Tea
Improving Training Methods
Need for adjusting level of difficulty
Improving dormitory operation
Improving how to select Trainees
Improving Lesson Plan
Hands-on Training
Improving project
Adjusting training time
Wifi installation
Opinion for improving policy
Improving cafeteria operation
Lack of Specialty
Increasing No of Training
Expanding on-the-job training
Expanding theoretical explanation
Improving Computer Lab
Improving amenities
Expanding trainees
Making training content in-depth
Diversifying training
Providing Practice Material
Lack of Notice in advance
Improving other environments

**1.Improving Training Methods 2. Improving Computer Lab 3. Adjusting Training Time 4. Positive Opinion**

and so on. Opinion for restructuring training course stands out

Korea Occupational Safety & Health Agency

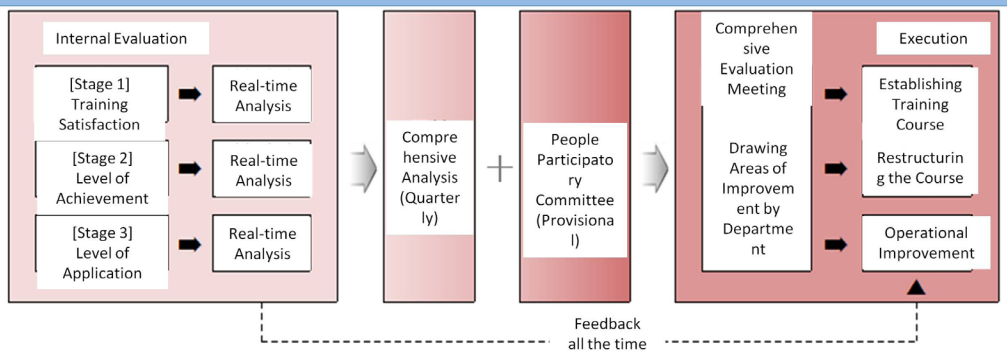
# Ⅲ. Course in Detail

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Training Evaluation System

### Feedback System

After course is completed, real-time sharing on VOC(Voice of Customers) and quarterly analysis improves customer satisfaction.




Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

# IV. Plans for 2019 Course Development and Future Development Direction

Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA



## 2019 Course Development Plan

### Job Training (4 courses)

- ○ Job Training for personnel at Safety Evaluation Agency(New)
- ○ Job Training for personnel at Safety Evaluation Agency(Refresher)
- ○ Job Training for personnel at Autonomous Safety Evaluation Agency(New)
- ○ Job Training for personnel at Autonomous Safety Evaluation Agency(Refresher)

### Candidate Training (6 courses)

- ○ Inspector on Centrifuge & Roller
- ○ Inspector on Conveyor & Injection Molding Machine
- ○ Inspector on Aerial Work Platform
- ○ Inspector on Industrial Robot
- ○ Course on certificate acquisition for Portable Crane & Aerial Work Platform
- ○ Course on certificate acquisition for installing and taking apart Tower Crane

Korea Occupational Safety & Health Agency

## IV. Plans for 2019 Course Development and Future Direction

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Specialist Training (4 courses)

**※ Developing training courses in response to new industrial environment(5G, Smart Factory, etc) and safety environment**

○ Safety & Health Course for Construction Work Order Placement

○ Safety & Health Specialized Course for Smart Factory

- SIL(Safety Integrity Level), PL(Performance Level), etc. which are key safety control factors in smart factory

○ Industrial Health Specialized Course for Electronic Industry

- Protecting and promoting health of personnel in semiconductors, LCD and OLED industry

○ Safety Management Course for CEOs

- CEOs increasingly integrate safety into management

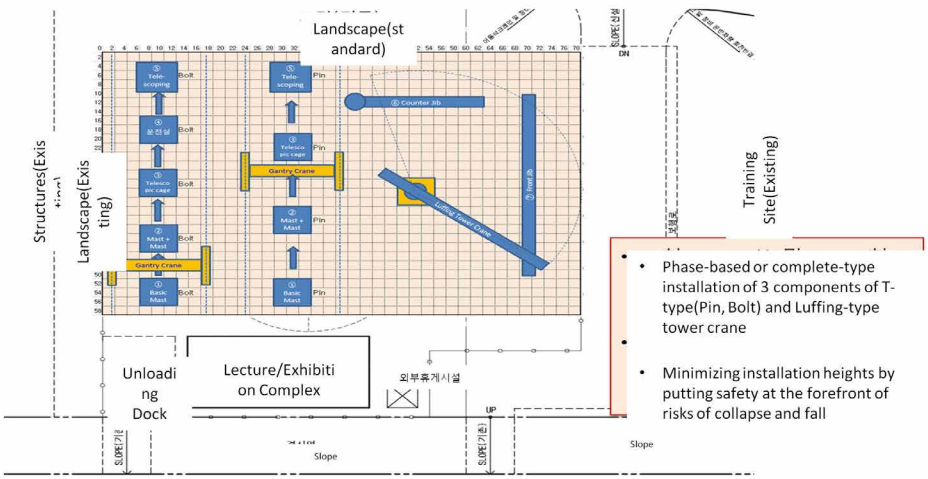


## IV. Plans for 2019 Course Development and Future Direction

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Course on certificate acquisition for installing and taking apart Tower Crane

**Training Site Layout (Draft)**




- Phase-based or complete-type installation of 3 components of T-type(Pin, Bolt) and Luffing-type tower crane
- Minimizing installation heights by putting safety at the forefront of risks of collapse and fall

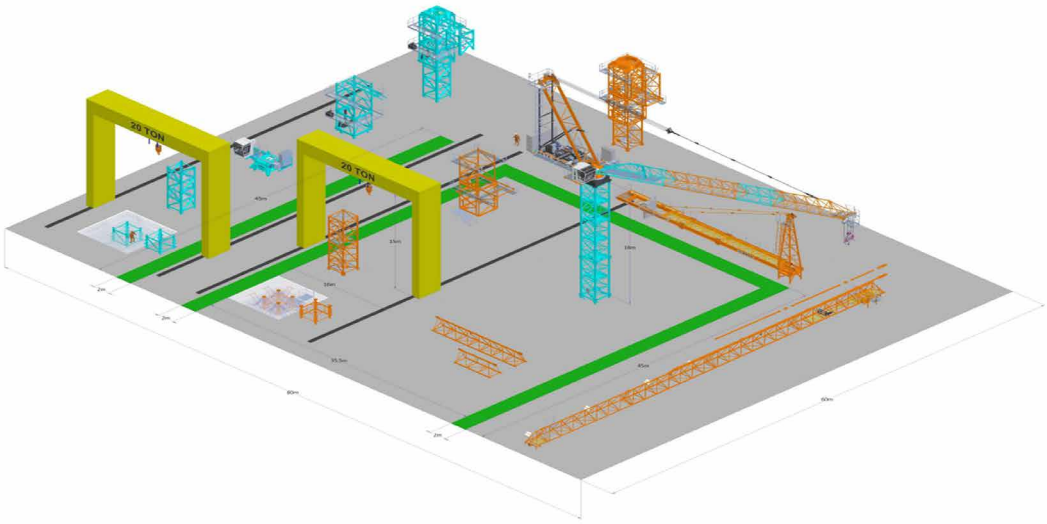
Korea Occupational Safety & Health Agency

## IV. Plans for 2019 Course Development and Future Direction

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Course on certificate acquisition for installing and taking apart Tower Crane

**Training Site Layout 3D Modelling**




Korea Occupational Safety & Health Agency

## IV. Plans for 2019 Course Development and Future Direction

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Course on certificate acquisition for installing and taking apart Tower Crane

**Lecture/Exhibition Complex Makeup (Draft)**

| Floor | Room | Size(m²) | Purpose and Special Note |
|---|---|---|---|
| 1st Floor | Lecturer & Trainer Waiting Room | 50 | Three Lecturers – Desk/PC/Partition, 2 Trainer on the waiting – Sofa, Tearoom, etc. |
| | Administrative Room | 50 | Based on 5 people, Desk, PC, Partition, Tearoom, Conference Table ,etc. |
| | Exhibition Room | 120 | Making and installing exhibition deck is included under this draft. Floor will be decided along with coordination with agency placing order |
| | Rest Area(Men) | 25 | Based on 5 people |
| | Rest Area(Women) | 15 | Based on 3 people |
| | Shower & Change Room(Men) | 30 | Based on 5 men using simultaneously |
| | Shower & Change Room(Women) | 15 | Based on 2 women using simultaneously |
| | Storage | 20 | |
| | Other Multi-purpose | 170 | Exit, hallway, stair room, restroom, etc will be discussed with order agency based on relevant laws for installing elevators and restroom for the disabled |
| | Sub-Total | 495 | |
| 2nd Floor | Training Room-1 | 65 | 30 people, Lecture Training |
| | Training Room-2 | 65 | 30 people, Lecture Training |
| | Training Room-3 | 65 | 30 each for Lecture training and both. If necessary, movable walls can separate the room into two |
| | Training Room-4 | 65 | |
| | Group Debate Room-1 | 25 | 10 people, Debate Training |
| | Group Debate Room-2 | 25 | 10 people, Debate Training |
| | Group Debate Room-3 | 25 | 10 people, Debate Training |
| | Storage | 20 | |
| | Other Multi-purpose | 140 | Hallway, Stair room, Restroom, etc. |
| | Sub-total | 495 | |
| Total | | 990 | Planning where total floor area should be less than 1,000m² |

Korea Occupational Safety & Health Agency

## IV. Plans for 2019 Course Development and Future Direction

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

### Course on certificate acquisition for installing and taking apart Tower Crane

**Training Timetable(Draft)**

| Course | No | Status | Tme |
|---|---|---|---|
| Total | | | 144 |
| Lecture Training | | Total | 40 |
| Hands-on Training | | Total | 104 |
| Common | Inside the building | Lecture / Exhibition Complex | 8 |
| T type Bolt type | ① | Basic Training & Basic Mast | 8 |
| | ② | Mast + Mast | 6 |
| | ③ | Cage & Telescoping | 24 |
| | ④ | Operation Room & Tower Head | 8 |
| | ⑤ | Counter Jib | 8 |
| | ⑥ | Front jib | 8 |
| T type Pin type | ① | Basic Training & Basic Mast | 8 |
| | ② | Mast + Mast | 6 |
| | ③ | Telescoping | 16 |
| | ④ | Operation Room | 4 |
| Luffing type | observation | Telescoping Observation | If necessary |

Korea Occupational Safety & Health Agency

## IV. Plans for 2019 Course Development and Future Direction

"Preventing Industrial Hazard" Occupational Safety and Health Training Institute at KOSHA

## Future Development Direction

### Continue to Develop Training Program for Raising Specialty with Worksite S&H Officials

○ Course on Platform and IoT-based virtual worksite hazard & risk assessment **(Virtual Worksite(VR) Risk Assessment)**

○ Course on hazard & risk prevention for collaboration between robots and humans**(Industrial Robot & Automatic Control System/People-centric Design Experts)**

○ Course on reducing aging-related stress at work**(Work for improving senior workers' health, Rest-focused design for psychological health)**

○ Course on reflecting appropriate safety methods at stage of construction order**(Course on Safety Design at Construction)**

### Developing & Running Capacity-building training programs

○ Diverse Specialty-building programs for workers by each area

- Construction Safety, Electricity Safety, Machine Safety, Chemical Engineering Safety, Service Safety, Safety & Health Management system, Investigation Methods on Major Disaster, Industrial Health, New Tech Safety & Health Course with change in industrial environment

Korea Occupational Safety & Health Agency

"Preventing Industrial Hazard"
Occupational Safety and Health Training Institute at KOSHA

# Thank You

Korea Occupational Safety & Health Agency