Potential OSH implications

Influence of differences between scenarios

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ICT-ETs facilitate and drive

• New work equipment and tools
• New ways of organising and managing work
• Changes to the working environment
• Changes in workforce characteristics
• Changing responsibilities for OSH
• Different skills, knowledge and info. needs
Work equipment and tools

• Automation and autonomy
• Internet of all things
• Advanced manufacturing
• Wearable devices
• Artificial intelligence
• AR, VR and ‘natural’ Human Machine Interfaces
• Customisable, complex, integrated
• Ever changing and advancing
Implications (work equip. & tools)

- Hazardous environments
- Situational awareness
- Better access to work
- Risk and work intensification
- Cognitive demand vs task deprivation
- Ergonomics and sedentary nature
- Constant monitoring and privacy
- Cyber-security
Business structures

- Management by algorithm / app
- Micro high turn-over enterprises
- Asset-light (work equip. and offices)
- Low profit margins
- Decentralised and/or local
- Consumer customisation
- Collaborative employment
Employment

Status

- (pseudo) self employed
- Casual, multiple employers

Hierarchies

- AI boss, own boss, flatter, remote

Relationships

- Peer support, knowledge transfer
- Collective bargaining
Workforce characteristics

- Dispersed
- Diverse
- Multi-disciplinary
- Autonomous
- New
- Nomophobic
Implications of new ways of working

• Workers OSH needs diverse
• Workplaces non-controlled / non-standardised
• Working time non-controlled / non-standardised
• Lone working
I just run the Platform – OSH* is not my problem

I just finance the workspace – OSH* is not my problem

I just fix the machines – OSH* is not my problem

I just buy the products – OSH* is not my problem

There’s no employers or managers round here – OSH* is not our problem

Hmm… do we have a problem??

I just design the templates – OSH* is not my problem

* OSH = “occupational safety & health”
Skills, knowledge and information

• ICT skills
• Personal and inter-personal
• Life-long and self-directed
• Knowledge transfer
• Deskillling
• Corporate memory
Features of ‘evolution’ scenario

• Manageable pace of change
• Government recognise importance of OSH
• Worker trust and confidence in regulator
• Limited public and private funding
• Skills shortages
• Diffusion of technology more than innovation
• Automated systems, cobots and narrow AI
Features of ‘transformation’ scenario

• Good OSH is expectation of society & built-in
• Consensual and evidence based approach
• Funding for quality research and lots of data
• Skilled multi-generational monitored workforce
• Loss of employment hierarchies
• Blurring of work and private life
• Lights-out factories
• Autonomy, AI, bionics, advanced HMIs
Features of ‘exploitation’ scenario

- Lack of government leadership
- Lack of support, trust or funding
- Poor regulatory frameworks
- Frequent job changes and change to jobs
- Severe skills gaps
- Responsibilities transferred to worker
- Micro-communities
- Autonomy, AI, cobots, advanced HMIs
Features of ‘fragmentation’ scenario

• Lack of government leadership
• Lack of support or funding
• Manageable pace of change (mostly)
• Skills gaps, poor knowledge transfer
• Rise of grey economy
• Counterfeiting
• Mix of old and new technology
• Poor cyber-security
Summary of OSH implications

- Opportunities to reduce OSH risks
- Opportunities to better manage OSH
- Existing risks in new contexts / sectors
- Ongoing trends for recognised emerging risks
- Some new and potential as yet unknown risks
- Psycho-social and organisational factors very important
Presents OSH challenges for

- Business management of OSH
- Education and training
- Regulation
- Inspection
- Health surveillance
- Occupational health services
- Worker representation
- Research