Potential OSH implications

Influence of differences between scenarios

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 / sedentary work
- Constant monitoring / 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

HEALTH & SAFETY LABORATORY

European Agency for Safety and Health at Work

SAMI Consulting

Implications of new ways of working

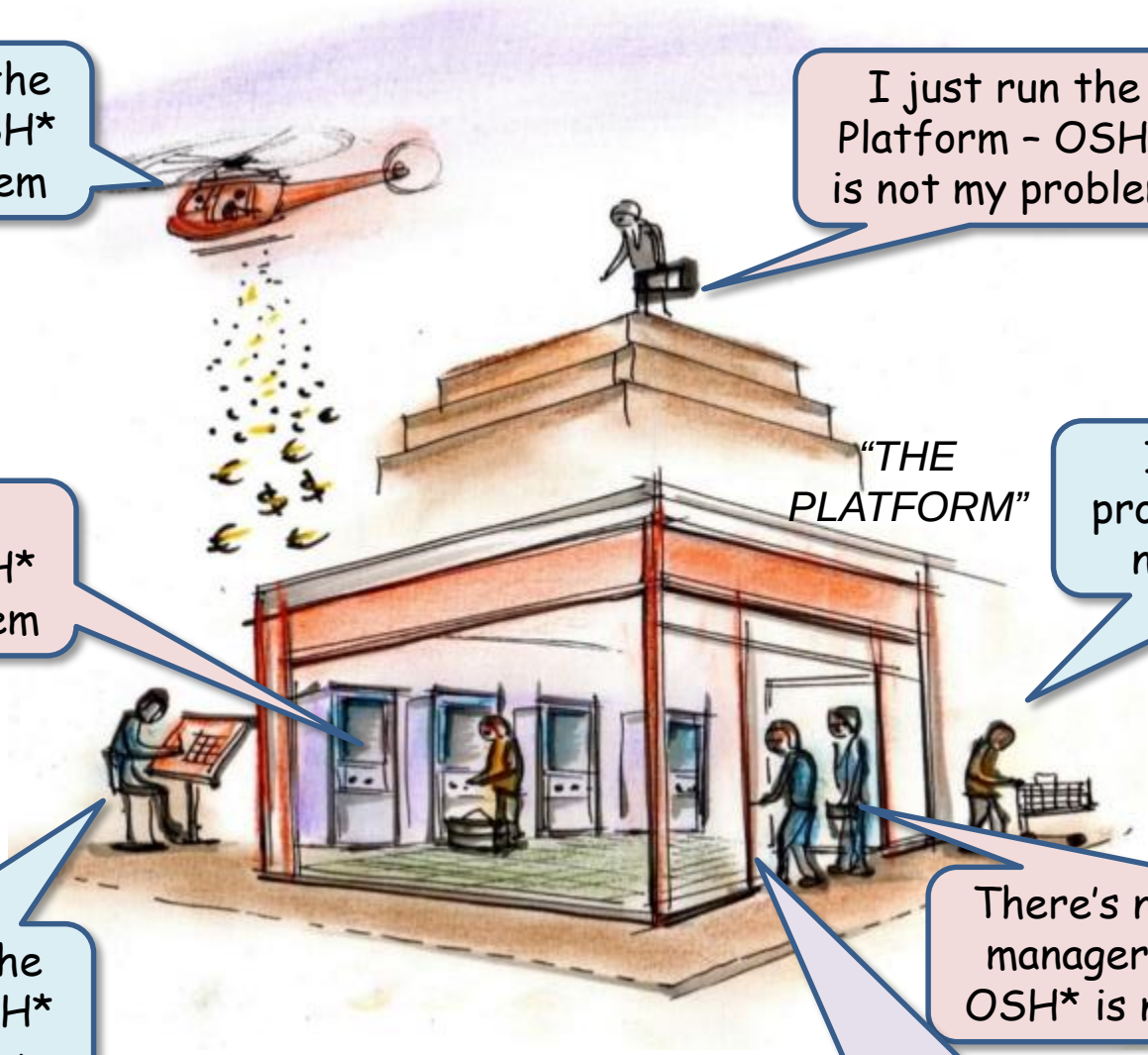
- Workers OSH needs diverse
- Workplaces non-controlled / non-standardised
- Working time non-controlled / non-standardised
- Lone working

NOT MY PROBLEM

HEALTH & SAFETY LABORATORY

European Agency

SAMI Consulting



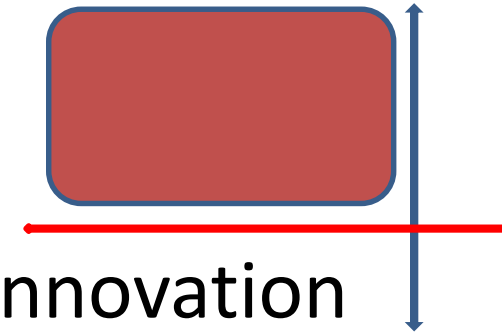
** OSH = "occupational safety & health"*

Skills, knowledge and information

- ICT skills
- Personal and inter-personal
- Life-long and self-directed
- Knowledge transfer
- Deskilling
- Corporate memory

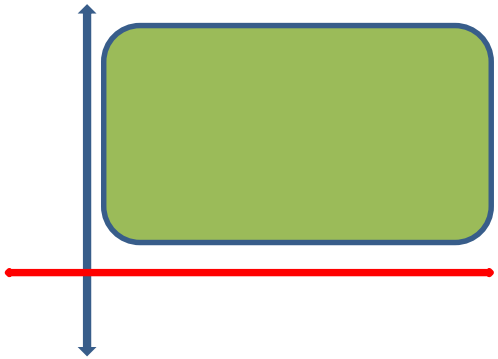
Features of ‘evolution’ scenario

- 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

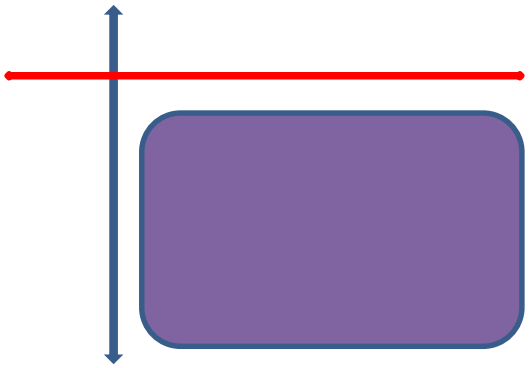


Features of ‘transformation’ scenario

- 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



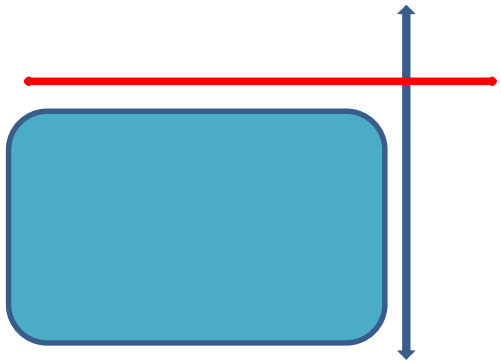
Features of ‘exploitation’ scenario



- 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