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Enhancing Workplace Safety Based on Internet of Things to Provide Intelligent Decision for Preventing Working at Height Fall Incidents for Occupational Workers

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Abstract: *In Under develop country like India fall incidents are increasing rapidly at workplace not only in the industrial sector even though construction and private sector too. Fall injury is the highest cause of death/ fatal/severe injuries. The severity of working at height incident depending upon the nature of job, height of application, uneven/cluttered surface etc. In this research paper a unique solution has been studied to bring revolutionary change in personal protective equipment which is used while working at height. There are many technologies are available,in chemical industry if any parameter deviate automatically machine will be shut-down and safe operating protocols will be activated but in conventional personal protective equipment it is hardly say there is still area of research where the technological improvement is needed to bring the robust safety system. Air bags are a very good example to correlate the smart PPE, if any passenger vehicle have air bag system collision with other vehicle automatically within milli second the airbag will be activated which saves the life of driver and passenger as well. Similarly Smart PPE has unique provision if PPE compliance is deviated at workplace immediately the violation shall be captured, and warning alert shall be given to user to remind them to compliance. This will help us to improve workplace safety. It is an error proof system that neither required manual surveillance nor manual recording of violations. In this research paper IOT internet of thing based smart safety harness has been studied and the workplace deviation were compared earlier with manual monitoring data to analyze the human error with respect to compliance of personal protective equipment.*

Keywords: hazards, fall Incidents, Risk, Internet of Things, Personal Protective Equipment, Fall Protection, Working at Height, Fall Injuries etc