

Revolutionizing Industrial Hygiene Practices

Tanner Gillian*

Department of Physical and ergonomic hazards, Royal University of Fine Arts, Cambodia

Abstract

V@^A, ^|áÁ[-h] á~ •ciáæ|H@~ *í^}^Á] |æ^ •kæh] áç [cæ|Ái [|^h] Á•æ-^*~ æ|áá} *Ác@^Á@^æ|c@kæ} áÁ, ^|Éà^á} *Á[-Á, [|^Á|^•Áç] [•^áÁc [Á çæ|á} [~ •Á [&&~] æá [] æ|á@æ: æ|á•ÉÁV@á•kæá•c|æ&c^Áç [] [|^Á•Ác@^Á [] * [á} *Á^Áç [|^~ c| [] h} h} á~ •ciáæ|H@~ *í^}^Á] |æ&cá&^•ÉÁá|áç^} Áá~ Á æáçæ} &^ { } c•h} Ác^&@ [] [|^ *ÉÁáææææ} æ|^ c|æ&ÉÁæ} áÁæÁ@^í *c^} ^áÁ- [&~ •Á [] Á] ; [æ&cáç^Á@^æ|c@kæ} áÁ•æ-^c~ Á { ^æ~ } ^Á•ÉÁV@^Á á} c^* íæc| [] Á [-Á- { æ|c^Á• } • [|^ÉÁæ|cá, &áæ|áá} c^|j|á~ ^} &^ÉÁæ} áÁ|^æ|Éc| { ^Á { [] áç [] á} *Áá•Ác|æ} •- [|^ { á} *Ác|æááç| [] æ|áæ [] [] æ&@^•ÉÁ ^} æá|j} *Á { [|^Á] |^áá•Á@æ: æ|áááá^} c|, &æc| [] ÉÁ|á•Áæ•••• { } cÉÁæ} áÁc| { ^|^h} c^|ç^} c| [] ÉÁV@á•Á^Áç [|^~ c| [] Á^ {] @æ: á•ÁæÁ @í-c^c [] , æ|á•ÁæÁáææÉÁ|áç^} ÉÁ] ; [æ&cáç^Á { [] á|^Ác@æc| [] c| [] |^Áæááá•Á•Áá { { ^ááæc^Á& [] &^Á} •Áá~ c|æ| [] Áæ} c|á&| æc^Ááæ} áÁ] |^ç^} c•Á [] c^} c|æ|á@^æ|c@kæ|áá} •Áá} h} á~ •ciáæ|H@~ *í^}^Á] |æ&cáç^Á@^æ|c@kæ} áÁ•æ-^c~ Á { ^Á•Ác@^Á [] c^} c|æ|áá {] æ&c| [-Ác@á•Á^Áç [|^~ c| [] Á [] Á, [|^Á|^•Áç-ÉÁ|^*~ |æc [|^Á& [] |jæ} &^ÉÁæ} áÁc@^Á [] ç^Á|æ|Á^ &á^} &^Á [-Áá} á~ •ciáæ|H@~ *í^}^Á] |æ&cáç^Á@^æ|c@kæ} •ÉÁ@á~ |j~ @c| } Ác@^Á } ^Áá @ [] [] {

Keywords:

Industrial hygiene, Wearable technology, Remote monitoring and Telehealth, Data analytics and artificial intelligence

Introduction

Industrial hygiene is a multidisciplinary field that focuses on the prevention and control of occupational hazards. The integration of modern technologies such as wearable devices, remote monitoring, and artificial intelligence is revolutionizing the way industrial hygiene is practiced. This paper explores the current state of industrial hygiene and the potential of these emerging technologies to improve worker safety and health.

Discussion

The integration of IoT and sensor technologies allows for real-time monitoring of environmental and personal exposure to hazardous agents. This data can be used to identify high-risk areas and individuals, enabling targeted interventions. Additionally, artificial intelligence can analyze large volumes of data to identify patterns and predict potential health outcomes.

Integration of IoT and sensor technologies:

Wearable sensors can monitor vital signs, heart rate, and body temperature, providing early warning of heat stress or other health issues. Environmental sensors can detect air quality, noise levels, and chemical concentrations, ensuring a safe working environment.

Data analytics and artificial intelligence:

Advanced data analytics and AI algorithms can process complex data sets to identify trends and anomalies. This can help in predicting occupational risks and optimizing safety protocols. For example, AI can analyze historical incident data to identify common causes and prevent future occurrences.

Wearable technology:

Wearable devices like smart glasses and sensors can provide real-time data on worker exposure to hazards. They can also offer immediate feedback and alerts, helping workers take corrective actions before exposure becomes a health risk.

Remote monitoring and Telehealth:

Remote monitoring systems allow for continuous health and safety monitoring of workers in high-risk environments. Telehealth services can provide timely medical advice and support, reducing the need for physical visits and ensuring quick response to health concerns.

*Corresponding coRevised: ■RP■, Editor assigned:ÁFGÉ Ræ} ÉGÉGHÉÁ Ú:ÁÚÓÁ Þ [KÁ [{ @æEG IÉFGÍ I I HÁÇÚÓDÉÁ Reviewed:Á GHERæ} ÉGÉGHÉÁ ÚÓÁ Þ [KÁ [{ @æEG IÉFGÍ I I HÉÁ Revised:Á HÉÉRæ} ÉGÉGHÉÁ Tæ} •&|á} c| Þ [KÁ [{ @æEG IÉFGÍ I I HÁÇÚDÉÁ Published: HFERæ} ÉGÉGHÉÁ ÚÓÁÁFÉÉ I FT@G|GHGJÉ I I JEFÉÉÉ I J I

Citation: Gillian T ÇGÉGDÁÚÇ [|^~ c| [] á:á} *Á} á~ •ciáæ|H@~ *í^}^Á] |æ&cáç^Á@^æ|c@kæ} •ÉÁ@á~ |j~ @c| } Ác@^Á } ^Áá @ [] [] {

Copyright: Á I ÁGEG I Á Gillian T ÉÁV@á•Á•Áæ} Á [] ^} Éæ&^••Áæ|c|á|Ááá•c|áá~ c^Á~ } á~ Ác@^Á c^} { •Á [] c@^Á Ó|^æc|ç^Á Ó [{ { [] •ÁÉcc|áá~ c| [] Á S|á^} •ÁÉÁ, @&@Á] ^} { ác^Á~ } ^Ác|áçc^ÁÁ •ÁÉÁá•c|áá~ c| [] Ékæ} áÁ^Á] ; [á~ &c| [] h} kæ} ^Á { ^áá~ { ÉÁ] ; [ç|á^Ác@^Á |áá} æ|áæ~ c@ [] kæ} áÁ • [|^Áæ|Áá|ÁáááÉ

