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DE(A)I: HOW TO USE AI TECHNOLOGY TO LEVERAGE DIVERSE EHS PROGRAMS

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WHAT DO I MEAN BY DE(A)I?

DIALECTS AND LANGUAGES

	Number	Share of All Speakers of Foreign Languages
TOTAL	67,754,000	100.0%
Spanish	41,255,000	60.9%
Chinese (incl. Mandarin and Cantonese)	3,405,000	5.0%
Tagalog (incl. Filipino)	1,715,000	2.5%
Vietnamese	1,523,000	2.2%
Arabic	1,391,000	2.1%
French (incl. Cajun)	1,175,000	1.7%
Korean	1,073,000	1.6%
Russian	1,045,000	1.5%
Portuguese	937,000	1.4%
Haitian	895,000	1.3%
Hindi	865,000	1.3%
German	857,000	1.3%
Yoruba, Twi, Igbo, other languages of Western Africa	640,000	0.9%
Amharic, Somali, other Afro-Asiatic languages	596,000	0.9%
Yiddish, Pennsylvania Dutch, other West Germanic languages	574,000	0.8%
Polish	533,000	0.8%
Italian	513,000	0.8%
Urdu	508,000	0.7%

 \vdash

Lávese las manos

Hugasan ang iyong mga kamay

Помойте Ваши Руки

अपने हाथ धोएं।

သူနစုတဖဉ်တက္။်.

Korean

gi zii bii gi nin jiin

ล้างมือให้สะอาด

손을 씻으십시오

हात धुनुहास्

洗手

Revised 7/202 ash Your Hands in 34 language

LANGUAGE SPOKEN BY STATE

እጅዎን ይታጠቡ

လက်တွေဆေးပါ။

ត្រូវលាងដែរបស់អក

ລ້າງມີຂອງເຈົ້າ

Maydh gacmahaaga

Oromo

שטוף

ידים

DEPARTMENT OF HEALTH

Harka kee dhiqadhu

Lavez-vous les mains

xin rửa tay

Bitte Hände waschen

Ntxuav koj txhais tes

Nawa Mikono



EDUCATION & PROFICIENCY





Service Occupations

- Sales and Office Occupations
- Natural Resources, Construction, and Maintenance Occupations
- Production, Transportation, and Material Moving Occupations



WORK FORCE

DIVERSITY Impact on Safety

Driving factors:

- Immigration cultures, language, religion
- Women trades, construction, manufacturing, pregnancy
- More opportunities for individuals with disabilities



DIVERSITY IMPACT ON SAFETY



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DIVERSITY IMPACT ON SAFETY









UNDERSTANDING THE NEEDS

- Training
- SIF Recognition and Reduction
- Quality Assurance/Quality Control
- "Safety Culture" is not always perceived the same way

A.I - CONCEPTION TO CURRENT



A.I - CONCEPTION TO CURRENT



A.I - CONCEPTION TO CURRENT

A timeline of notable artificial intelligence systems

	Theseus: A sm that could navi and remember	gate a simp			(TD-Gammo to play backg just below th	gammon an le top hum	t a high level, an players.		al early "de	en learning"	
First digital computers	Perceptron Mark I: Regarded as the first artificial neural network, it could visually distinguish cards marked on the left side from those marked on the right.		s,		S C	system – a ne could recogni cars at near-l Artific	eural network ize images of human level. ial intelligend	with many objects such ce with lang	layers – that h as dogs and	ge recognition	
1940 195	0 1960	1970	1980	1990	2000	2010	2020	2030	2040	2050	2060

LEVERAGING AI FOR EHS

- ChatGPT
- Open Art
- Murf
- VelocityEHS
- Intenseye



velocityEHS humantech[®]









^o intenseye

VELOCITY EHS ERGO DEMO



VELOCITY EHS ERGO DEMO



VELOCITY EHS ERGO DEMO

Advanced Tool Priority Score

34





Advanced Tool Assessment

	Hands	ds/Wrists Elbows		Shoulders		Neck	Back	Legs	
	Left	Right	Left	Right	Left	Right			
Score 🔺	5	5	3	6	5	5	4	0	1
Force	4	4	3	3	3	3	1	0	0
Posture	1	1	0	3	1	1	2	0	1
Duration	0	0	0	0	0	0	0	0	0
Frequency	0	0	0	0	1	1	1	0	0
Risk Rating	High	High	Mod	High	High	High	High	Lower	Lower
Forces									

Forces				Add
Name	Туре	Affects	Value	Risk
Gripping box to move	Pinch Grip	Both	20 lb	High Edit
Lifting box from scale	Lift/Lower	Both	20 lb	High Edit
PPE		Neck	2.1 lb	Mod Edit
Vibration				

Operators are currently required to dip hands to sanitize once they've touched cardboard (unless they pinch the bag between the box). Current production timing does not lead to this, as well as general practices becoming customary over time.

Edit 💌

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Emily Weber (Jan 30, 2024)	Edit Delete
task is rotated between 4 people, with 2 working the time	scale at a
Emily Weber (Jan 30, 2024) patty conveyor height is 37"	Edit Delete
Emily Weber (Jan 30, 2024) height to top of scale is 21" (37" when box is on and f open)	Edit Delete laps are
Emily Weber (Jan 30, 2024) walking distance from scales is 7 feet and 10 feet, res	Edit Delete
Emily Weber (Jan 30, 2024) conveyor height starts at 29" and declines to 28"	Edit Delete
Emily Weber (Jan 30, 2024) Tasks average around 25 seconds per person, extend throughout an 8-hour shift. (480 times per shift, not i breaks or lunch)	-
Emily Weber (Jan 30, 2024) Work environment for production employees stays a	Edit Delet round 45F
Emily Weber (Jan 30, 2024) Box dimensions are 19Lx10wx10 3/4 h (19x10x16 wit open)	Edit Delet h box flaps
Dave McCloney (Jan 30, 2024) box is 20# when full	Edit Delet
Dave McCloney (Jan 30, 2024) wearing cotton gloves under nitrile gloves	Edit Delet

A.I. IMPLEMENTATION BARRIERS

- Subscriptions and upfront/recurring costs
- Organization capabilities
- Data privacy and protection issues
- Doesn't always translate correctly



THANK YOU

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