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%

LANGUAGE SPOKEN BY STATE

- Management, Business, Science, and Arts Occupations
- Service Occupations
- Sales and Office Occupations
- Natural Resources, Construction, and Maintenance Occupations
- Production, Transportation, and Material Moving Occupations

Immigrant Workers

15%
12%
37%
15%
21%

U.S.-Born Workers

13%
8%
43%
21%
15%

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

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

LEVERAGING AI FOR EHS

- ChatGPT
- Open Art
- Murf
- VelocityEHS
- Intenseye

VELOCITY EHS ERGO DEMO

VELOCITY EHS ERGO DEMO

Advanced Tool Priority Score

34

Edit ▼

Advanced Tool Assessment

	Hands/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   Add

Name	Type	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.

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task is rotated between 4 people, with 2 working the scale at a time

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patty conveyor height is 37"

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height to top of scale is 21" (37" when box is on and flaps are open)

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walking distance from scales is 7 feet and 10 feet, respectively.

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conveyor height starts at 29" and declines to 28"

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Tasks average around 25 seconds per person, extending throughout an 8-hour shift. (480 times per shift, not including breaks or lunch)

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Work environment for production employees stays around 45F

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Box dimensions are 19Lx10wx10 3/4 h (19x10x16 with box flaps open)

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box is 20# when full

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wearing cotton gloves under nitrile gloves

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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