COVID-19: Data-driven analytics as a return to work strategy

by Thomas R. Cutler

Mark Heidebrecht (MH) and Sam Bradbury (SB), founders of Ergonomics International, talk with Thomas R. Cutler (TRC) about the importance of data-driven analytics as a Return to Work strategy.

TRC: How has COVID-19 impacted the need for data-driven analytics?

MH/SB: Data-driven analytics are totally essential in helping employees and employers. Ergonomics International has just announced the immediate availability of a COVID-19 Employer Management System (EMS) for abatement strategies. Employers must be armed with the necessary tools to identify at-risk employees, track those with COVID-19 immunity, and recognise potential carriers.

TRC: Why is the evolving enterprise during COVID-19 receptive to implementing data-driven solutions to make evidence-based decisions?

MH/SB: Government mandates for COVID-19 abatement strategies require immediate action by employers to protect themselves and their employees. Documentation and data are critical and will distinguish companies which survive and those which do not.
TRC: During COVID-19, how should manufacturers be ergonomic leaders, analysing data differently than competitors?

MH/SB: Employers are going to migrate away from traditional ergonomic tools that lack validity and move to ergonomic tools that are evidence-based and provide leading indicators.

TRC: How can ergonomics data bring products to market faster through machine learning or test new products and processes?

MH/SB: If data-driven ergonomic principles are applied during the design stage, the risks and number of handling points are reduced. This leads to more efficient processes and fewer touches. Movements are money; reducing human movements increases profits and gets the product out the door quicker.

TRC: How does the science of ergonomics help manufacturers demonstrate the ability to anticipate service and product failures before complaints?

MH/SB: By applying the tools and principles of human factors and ergonomics, manufacturers can prevent and reduce errors. Highly repetitive tasks, task boredom, cognitive fatigue, shift fatigue, print sizes in labelling, small parts handling, multi-tasking in areas that require detailed decision-making are areas where reduction of error or failure can significantly impact effectiveness. These factors are even more significant during COVID-19 as employers contemplate an effective return to work strategy.
Return to Work strategy requires data-driven analytics

TRC: How can small and mid-sized manufacturers afford ergonomics driven by AI (Artificial Intelligence) or AR (Augmented Reality)?

MH/SB: Simple tools such as Google Glass, Go Pro Cameras, and mobile phone video, have allowed more detailed information gathering and better analysis based on improved pixel rates, slow motion, capture, and angles of view to watch product flow and human process. Virtual reality and modelling software allow ergonomists to analyse workspaces before building to find errors, flow barriers, human decision points that are not seen in a common planning stage. Using epidemiologic data affords the ability to predict work-related injuries more effectively and accurately, using AI learning to code and apply to individual operations.

TRC: How does the use of Big Data accelerate the efficacy and efficiency of ergonomic processes for small or mid-sized manufacturers during COVID-19?

MH/SB: Applying epidemiological research data and statistical principles (leading indicators) along with items such as injury frequency, severity rates, and financial costs (lagging indicators), the data are used to provide realistic risk numbers and costs for ergonomic mitigations and return on investments analysis.

During COVID-19, employers and employees must log social distancing and PPE (personal protection equipment) concerns at the workstation. Once logged, responsible parties use the EMS which triggers an email to immediately assess and resolve any issues.

QR codes are used to track doors and other high touch points ensuring surfaces are clean. This also provides required documentation that safe work practices have been followed in the event of a local outbreak. When a vaccine becomes available, these data can be used to identify who has immunity and areas in the facility most vulnerable.