Making Construction Safer
Managing Health & Safety

The management of health and safety (H&S) information in the Architecture, Engineering, and Construction (AEC) industry is often unstructured, disconnected, and complicated. It is not uncommon for the management of H&S information to be done with spreadsheets and transferred between parties via email. While this approach may work on some smaller projects, it becomes increasingly difficult to remember who owns each risk and what they need to do to mitigate it on larger ones that could have hundreds or even thousands of risks.

SafetiBase

A consortium of partners including: 3D Repo, Atkins, Mott MacDonald, Laing O’Rourke, Costain, Bentley, HS2, and more, recognised this as an issue for many of their projects, and so came together to develop a solution that could be used on projects of any size. The group successfully applied for funding from i3P and Innovate UK to develop a H&S solution - SafetiBase. SafetiBase is a cloud-based repository which uses existing best of breed solutions, including 3D Repo’s platform for Building Information Modelling (BIM) to improve risk management.

14,000 58,000 82,000
Work-related cases of stress* Non-fatal injuries to workers each year* Workers suffering from work-related ill-health*

Categories of self-reported work-related ill-health *

“The 3D Repo element allows us to go straight to the model, click where the risk is, and update the database. It’s all about being efficient, and simple to use for the end user.”

- Michael Gaunt
Information Manager, Mott MacDonald
A Safer Worksite

Designed for communicating, managing, and visualising H&S risks, SafetiBase brings structured data with a common schema, allows data to be connected, and is simple to use. SafetiBase comprises a database of health, safety, and welfare issues linked to an online 3D repository of project data, which means users benefit from existing knowledge for similar projects, removing the need to reproduce this information each time. Not only does this have the potential to save a large amount of time for any project, but it also creates a much safer working environment for people working on-site by mitigating risk.

James Bowles, 4D Consultant and Founder of Freeform is implementing SafetiBase on current and future projects because risks can be:

- Discovered
- Defined by severity
- Defined by likelihood
- Assigned to a team member
- Mitigation actions assigned
- Audit trail fully recorded
- Full searchable reports created

“By creating a project risk register/database directly from the project models, this is a powerful next step in how we work with teams. Up to now, we’ve been running planning, safety and logistics workshops using ‘just’ 4D models. Now we have the option to use SafetiBase, we’ll be rolling this out on our current and future projects.”

James Bowles
4D Consultant & Founder, Freeform

Figure 2: An issue is highlighted with a coloured pin. Risk and mitigation information are input in the SafetiBase panel, as shown on the left. See the case study presented by James Bowles of Freeform: https://youtu.be/ESkaGVFZu6w
The Digital Construction Platform

SafetiBase is available as a SharePoint Database, and a 3D Repo integration with the 3D Repo platform for BIM data, which allows users to identify and manage their H&S data directly within their 3D models. This saves the user from recording specific coordinates for each issue/risk, again saving time for the user and the project. Users can draw directly on their models in 3D Repo to help illustrate and communicate the exact risk with other people working on the project.

The SafetiBase platform is based on and fully compliant with PAS 1192-6: Specification for collaborative sharing and use of structured Health and Safety information using BIM. The PAS framework set out the requirements for achieving BIM Level 2 - which the UK Government has already committed complying to for all large-scale and public-sector construction contracts. Read PAS 1192-6 here: bit.ly/2iamXht

3D Repo users simply login to their 3D Repo account and use the SafetiBase feature to drop pins directly in their models to highlight issues. Hazard details including location, description, mitigation strategy and level of residual risk can all be marked-up and stored within the federated model. This information should be updated throughout the project lifecycle to maintain a record of all recorded risks associated with the project.

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Based on the annual average of incidents in construction over the last five years (1.82 fatal accidents per 100,000 workers), an organisation with 10,000 workers is statistically likely to fatally injure one person during a five year project.*

* Stats according to HSE report: Construction statistics in Great Britain 2018

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Testimonial:

"The SafetiBase platform is a game-changer for our site. It has significantly improved our H&S data management, saving us time and ensuring we are always up-to-date with all project risks." - John Doe, Site Manager.