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Manager Awareness Training Part 2
An overview of the system and How it Works

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HAVWEAR and RASOR – how do they help?

A monitoring device that automates the calculation of HSE HAV points and displays points and alerts for high exposure

A communication hub to gather data from multiple health risk sensors including HAVwear. Remote supervision for over the shoulder intervention & Lone Worker

HAVWEAR and **RASOR** work with the Reactec Analytics to report exposure data and support optimisation of controls to reduce risk ALARP.

Online reports

2

Manage risks

Monitor HAVs

1

3

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Using the System

1. Sign out
From a Dual Charger or Docking Station, use the Operator ID card to sign out a HAVwear

2. Collect
Unclip the HAVwear module from the bay with the flashing LED light

3. Protect
Insert HAVwear module into a holder, thread the strap through the holder and snugly fit the strap around the wrist

4. Connect
"Connect" with each tool by pressing and releasing the HAVwear button before placing the HAVwear device next to a tool tag until you hear a beep.

5. Assign
"Assign" a RASOR to an individual by removing the RASOR from the charger, press the RHS button on the RASOR place an ID card on top of the RASOR until a beep sounds.

6. Manage
Gather colleague real-time data from HAVwear and other sensors within 30m or track their location for immediate intervention or remote supervisor alert monitoring.

7. Lone Workers
Remotely view employees exposure levels, location and be alerted to any alarms from man-down, lack of check-in or manually initiated panic.

Location mapping
Panic alarm
Man down alarm
Fall alert
Employee check-in
LONE WORKER

8. Return
At the end of a shift return the HAVwear to a Docking station to recharge and transmit data
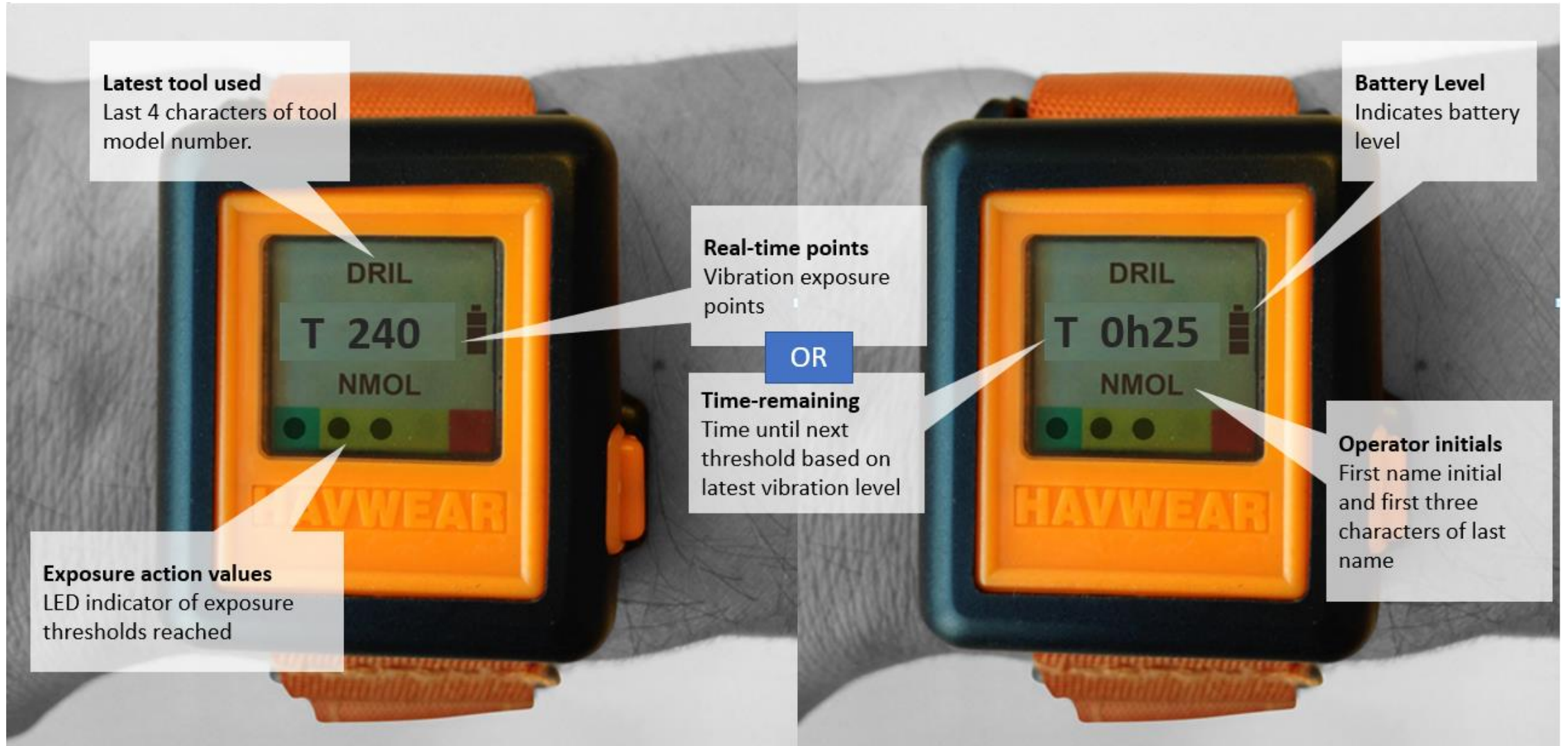
9. Reduce
View reports online or by email of individual and overall HAV exposure and the source of risk.

Note
- Place the HAV**WEAR device** into the docking station retaining clips and press down on the orange plastic moulding of the device to ensure it is firmly clipped into place. Do not press down on the LCD screen of the unit as repeated or excessive

HAVWEAR Display

Latest tool used
Last 4 characters of tool model number.

Battery Level
Indicates battery level

Real-time points
Vibration exposure points

OR

Time-remaining
Time until next threshold based on latest vibration level

Operator initials
First name initial and first three characters of last name

Exposure action values
LED indicator of exposure thresholds reached

DRIL
T 240
NMOL

DRIL
T 0h25
NMOL

Using HAVWEAR – Key Points

How it works

- The HAVwear constantly senses vibration

- It determines if the nature of the vibration is from a tool to decide that a tool trigger has been pulled.

- If an operator forgets to tag a tool after sign out, the HAVwear will display the SEP points as TEP points and store as TEP points with no tool identity. As soon as one tool tag is read in a shift TEP and SEP are created independently.

- The trigger time together with the last read Tag vibration is used to calculate TEP points.

- If an operator forgets to tag the next tool, the TEP points will be based on the last Tag read.

- If the operator will be subject to material vibrations OFF tool which are not a source of HAVs, an OFF tag or the OFF button can be used to ensure TEP points are zero. This should be considered especially when moving OFF a high vibration tool.

- An OFF tag has an identity of OFF and a vibration level of **$0.0 m/s^2$**. It allows a controlled use of OFF.

- Setting the OFF button allows all operators an ability to switch off detection of TEP points.

- TEP is detected again as soon as another tag is read.

- SEP and SAFE-DISTANCE are not affected by an OFF tag or OFF button.

A company wide setting on the Analytics determines if the operator screen shows TEP or SEP and the data set presented to report users

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DO YOU KNOW HOW COMPETENT YOUR WORKERS ARE?

01 HSE published business case

02 Untrained operator vibration levels
9m/s^2

03 Trained operator vibration levels
5.5m/s^2
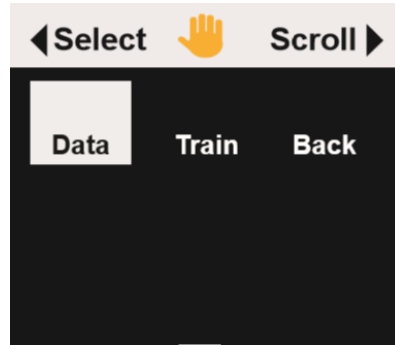
04 Time to EAV increased from 35 to 100 minutes

05 Improved efficiency led to 17 times more output per day

https://www.hse.gov.uk/vibration/hav/campaign/construction/operatortraining.htm

LIVE Training Aid - RASOR

HAV main screen

◀Select ✋ Scroll▶

Data   Train   Back

Select "Train"

Select "Data"

◀Back ✋ Scrol▶

J.McLaughlin
Total: 345 pts

EAV:100 ELV: 400

Select "Data" - screen will display for individuals within range their current daily exposure and thresholds

◀Select ✋ Scroll▶

S.Carpenter

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GW23-115 BOSCH
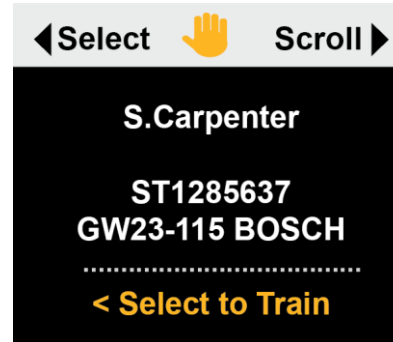
< Select to Train

Select "Train" screen will display:

- Operator Name
- Tool Id
- Tool Name

Press "Select" to train the displayed operator

Press "Select"

◀Back ✋

Tag : 50 pts/hr
Sensed : 1000 pts/hr

<Tag   2xTag   4xTag
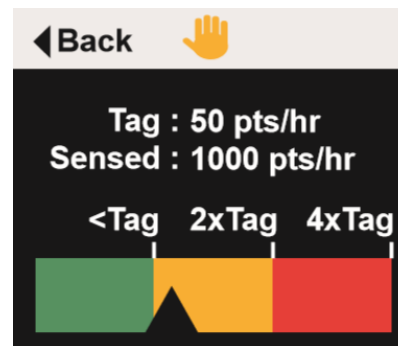
- Tag vibration magnitude expressed in exposure points per hour
- Live sensed vibration in exposure points per hour
- Gauge graph showing the live sensed vibration relative to the tag vibration.

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- Daily data backup.
- Secure data hosting and employee access.
- Internet enabled PC or tablet to access reports.
- Data and reports hosted by Reactec
- Automatic reports and alerts

Note Battery Life
HAVwear
- After a typical days use of HAV monitoring only a fully charged HAVWEAR the time to re-charge is 33 mins. With SAFE-DISTANCE enabled a battery will be heavily depleted after one days use
- When fully discharged a HAVWEAR requires 3 hours to recharge.
- Max battery life is 48 hours (12 hours with SAFE-DISTANCE active)
RASOR
- After a typical days use of a fully charged RASOR the time to re-charge is 1.5 hours.
- When fully discharged a RASOR requires 3 hours to recharge.
- Max battery life is 24 hours

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Health and Safety Intelligence
Reactec Analytics

Reactec

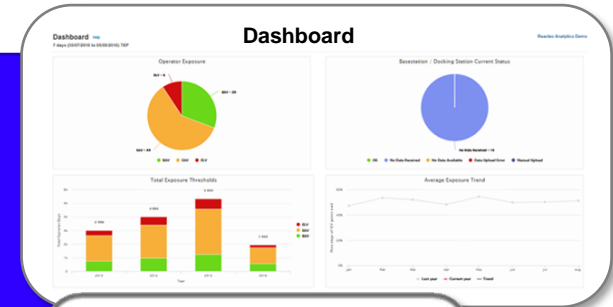**reactec.com**

Reactec Analytics

📊 View Analytics

Automated online & email reports to drive risk reduction activity & identify hidden risks.
With a clearer understanding of employees' risk profiles; the Reactec Analytics provides insight to enable employers to prioritise and implement control measures.

Easy to understand reports empower employers to;
- Prioritise risk management
- Design and record controls and interventions
- Review controls and assess effectiveness

The Reactec Analytics data can inform decisions on;
- Alternative work methods
- Equipment selection
- Maintenance & purchasing policy
- Work schedules
- Measure effectiveness of controls

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Getting Started

- Reactec will set up an initial administrator who will receive a welcome email containing a link to a web page to create your unique password.
- The first administrator then sets up a chain of creation of users. User types
  - Enterprise Administrator
  - Administrator
  - Group Administrator
  - Report user
  - In addition, an Administrator can give any user, access to the SEP data. By default users access only TEP or SEP, which ever exposure calculation is chosen for the operators HAVwear display

Data Structure Example

The Enterprise
For large Corporations only

Company

Large Corp
Rail Op Co

Large Corp
Utilities Op Co

Region
South

Division
Construction

Data Group
South Construction

Each data group can belong independently to one region and one division

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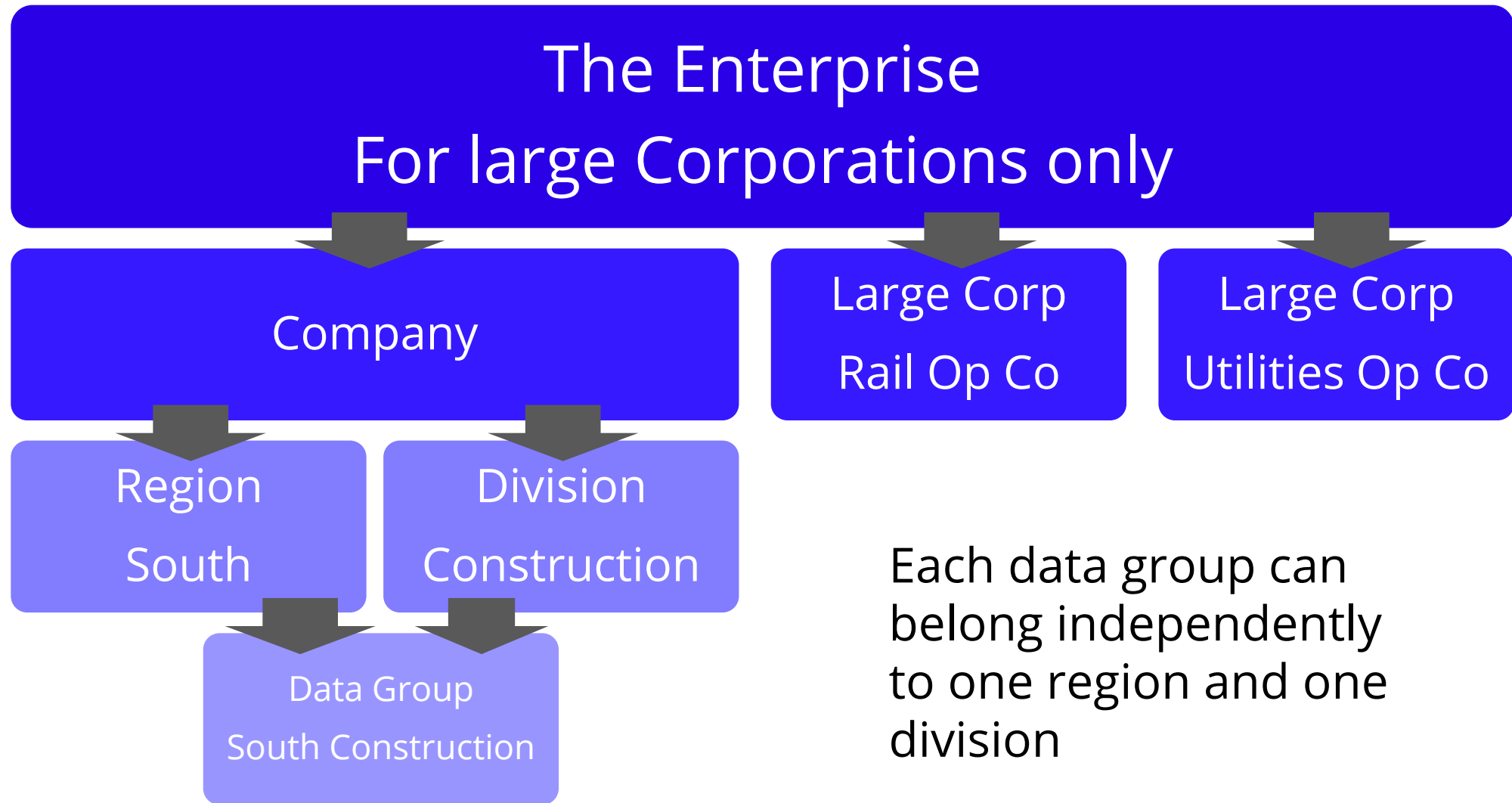
Automatically collect

A variety of docking stations and charging stations available to build and scale your deployment. Seamlessly send data securely to the **Reactec Analytics.**

Automatically share

Flexible scalable management of GDPR compliant personal data. Intuitive reports automatically distributed to appropriate duty holders.

HAVS, Noise, Location

Inform & protect

Assign to individuals daily. Personalised alerts received of exposure levels.

LIVE Data

Send data live from the field to the **Reactec Analytics.** Allow supervisors to provide immediate intervention

Engineer Preventions

Identify from intuitive reports interventions and control measures to prevent future occurrence. Track effectiveness and evidence activities.

Management KPIs
Specific Applications
* **Link tool use to asset management**
* **Overlay cable avoidance and tool use**

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Monitor the situation of live alerts and alarms

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Onsite & Remote Supervision

In field for over the shoulder or remote supervision of multiple worker to address:

- Exposure risk in real-time.
- Alerts for social distancing, threshold breaches, slips/trips, panic...

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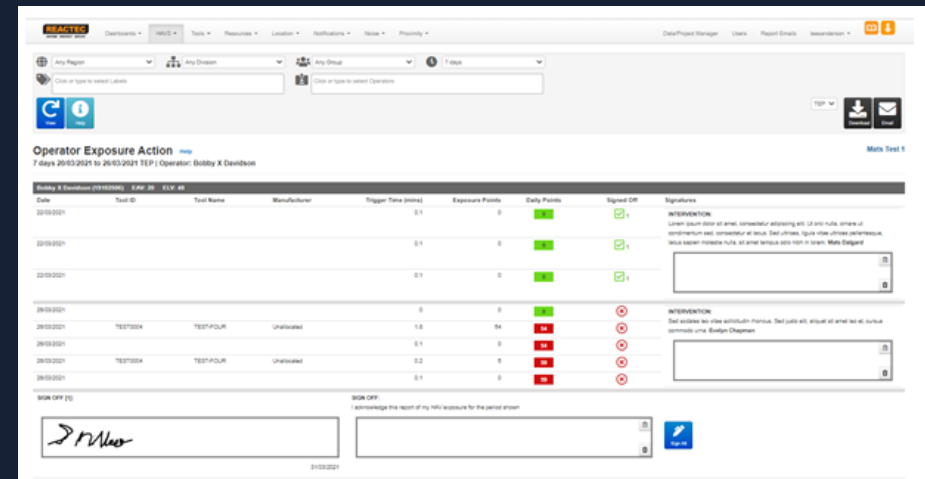# EVIDENCE YOUR PREVENTION ENGINEERING

Record & Monitor
Control Measure Success

Log applied control measures and track their effectiveness in reducing risk by the impact on workforce average daily HAV exposure.
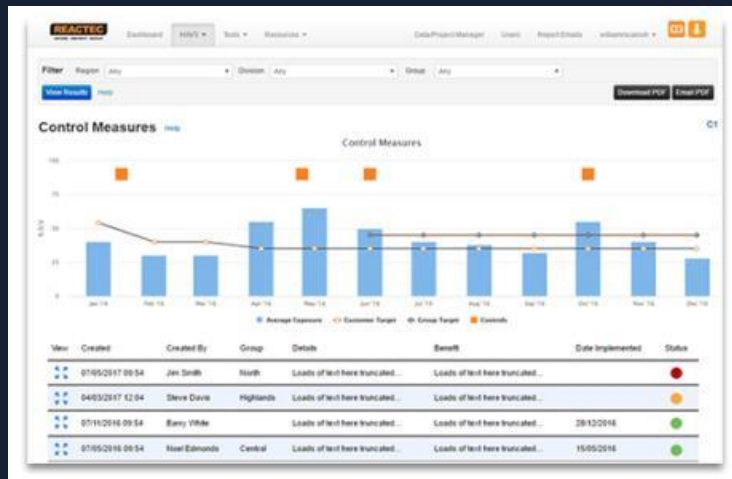
Log & Authenticate
Interventions

Log intervention notes allocated to individual employees and electronically sign to acknowledge.

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THE REACTEC PREVENTION ENGINEERING APPROACH - WHY

Regulations & the HSE	Civil litigation	Employee care
Prioritise and verify the effectiveness of your controls	Robust and credible evidence to assist in defence of claims	Real life assessments of individual HAV exposure
Enhanced real-time HAV exposure risk assessments.	Reduce defence preparation costs	Personal instead of generic risk.
Design, prioritise and record controls based on data analytics.	Auditable and tamper proof	Ensure individuals are not at increased risk of developing HAVS
Evidence of control Effectiveness	GDPR compliant data management	Consolidate employee H&S monitored data