National Highways Meet the Buyer Event

in association with the SCSS

Quality & GIRI – the role of error elimination

Cliff Smith   GIRI Executive Director

17th August 2023

Working together to eliminate error,
by industry, for industry.

GIRI

Get It Right Initiative

GIRI – The Why

GIRI – The What

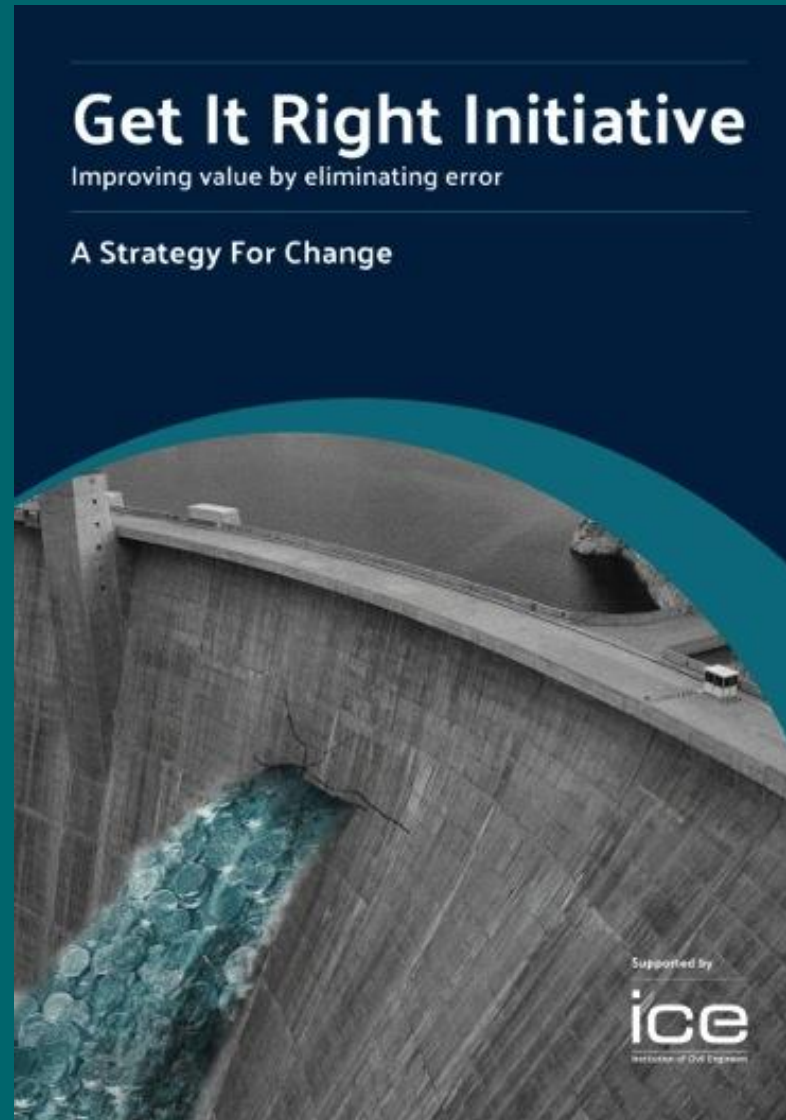# GIRI – The How

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Get It Right Initiative

GIRI – The Why

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Initial research report:

A strategy for change

Get It Right Initiative
Improving value by eliminating error

A Strategy For Change

Supported by
ice
Institution of Civil Engineers

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Wasted spend on error

Direct costs of error (5%)
resources used in correcting an error
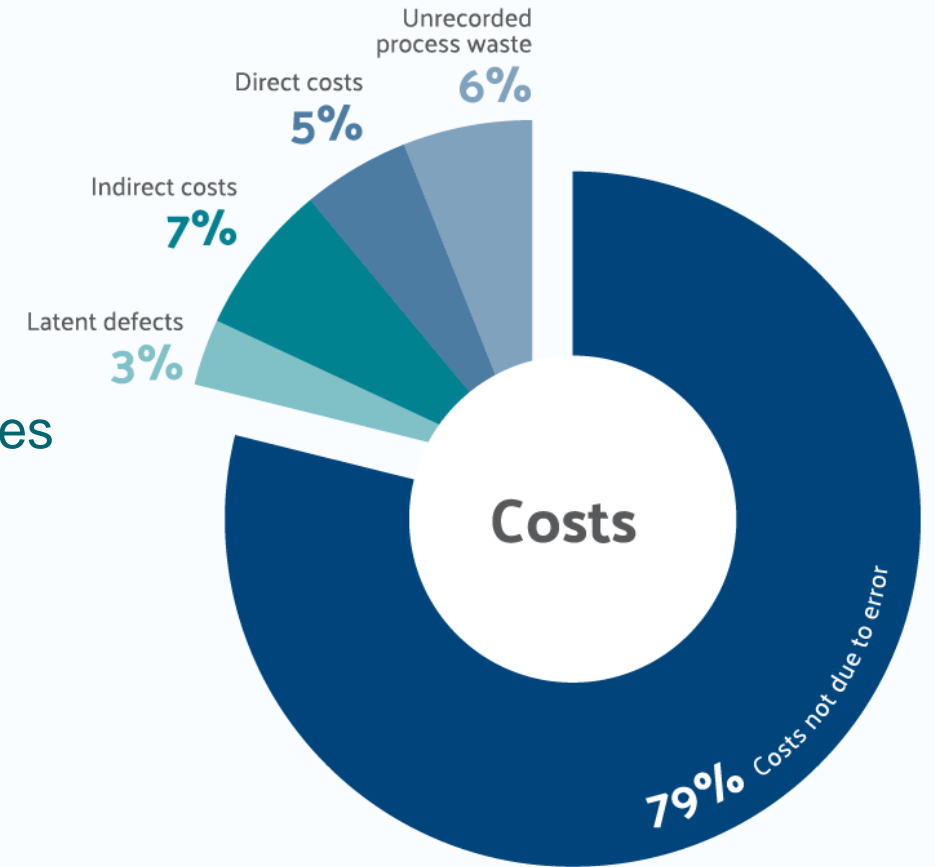
Indirect costs of error (7%)
Resources used in follow on work and costs to other parties

Unrecorded process waste (6%)
Errors occur, are identified and corrected without being recorded

Latent defects (3%)
remain in place after client acceptance and any 'defects liability period' has passed

Costs

Unrecorded process waste 6%

Direct costs 5%

Indirect costs 7%

Latent defects 3%

79% Costs not due to error

£22 billion a year

Areas in which cost of error is greatest

- Concrete works
- Mechanical systems
- Facades/cladding
- Electrical systems
- Finishes
- Roofing
- Basement waterproofing

- Setting out
- Drainage
- Drainage to completed works
- Steelwork coatings
- Piling
- Roads & pavements

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Root causes of error

- Inadequate planning (from task through to project level)

- Late design changes

- Poorly-communicated design information

- Poor culture in relation to quality

- Poorly coordinated and incorrect design information

- Inadequate attention paid in the design to construction

- Excessive commercial (financial and time) pressures

- Poor interface management and design

- Ineffective communication between team members

- Inadequate supervisory skills

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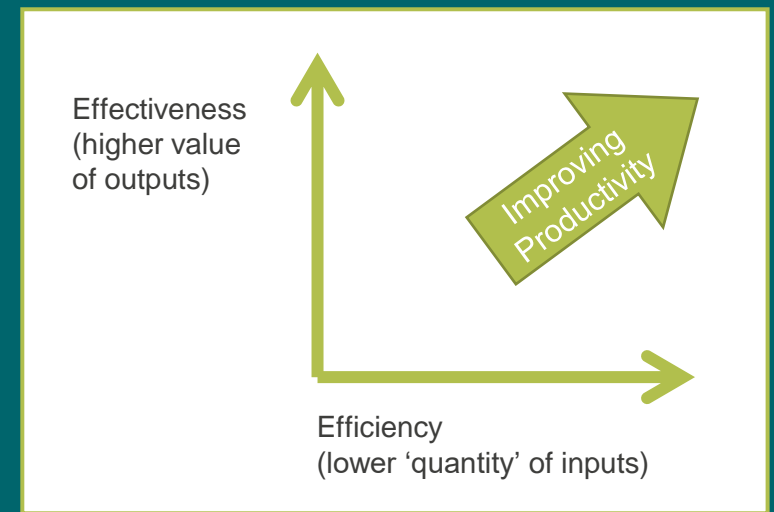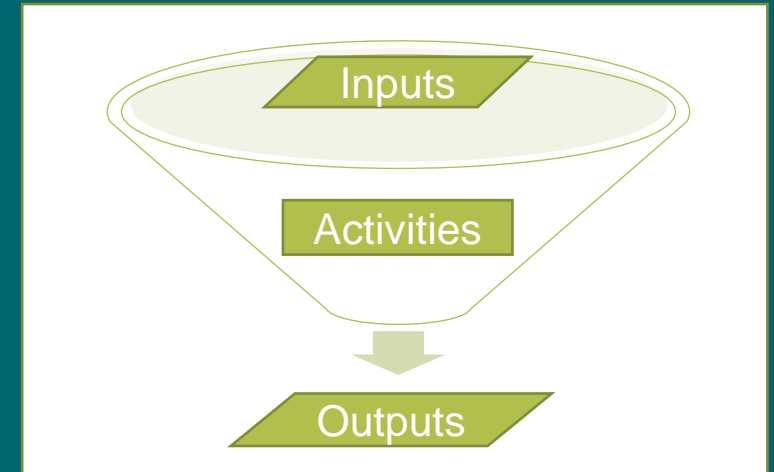
Defining productivity

Our definition of productivity relates to activities, which take inputs and produce outputs (see Figure 1).

The two concepts of effectiveness and efficiency are important to consideration of productivity where:
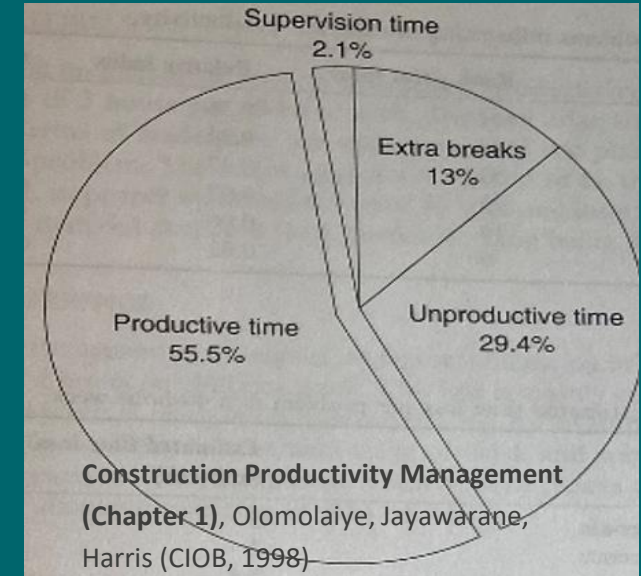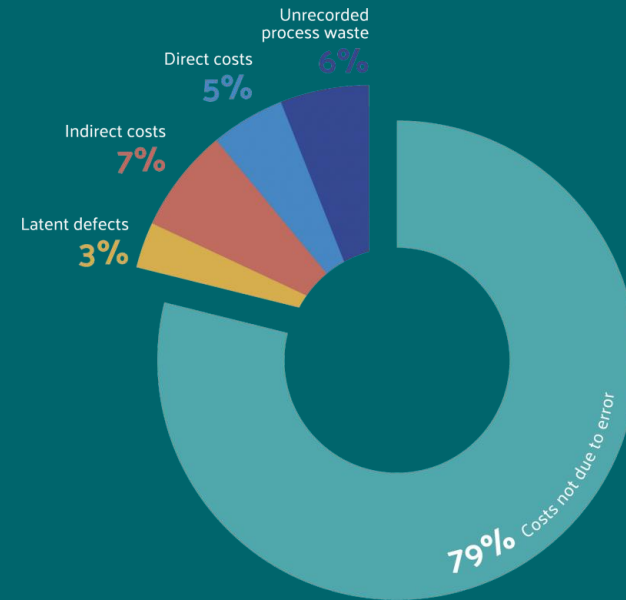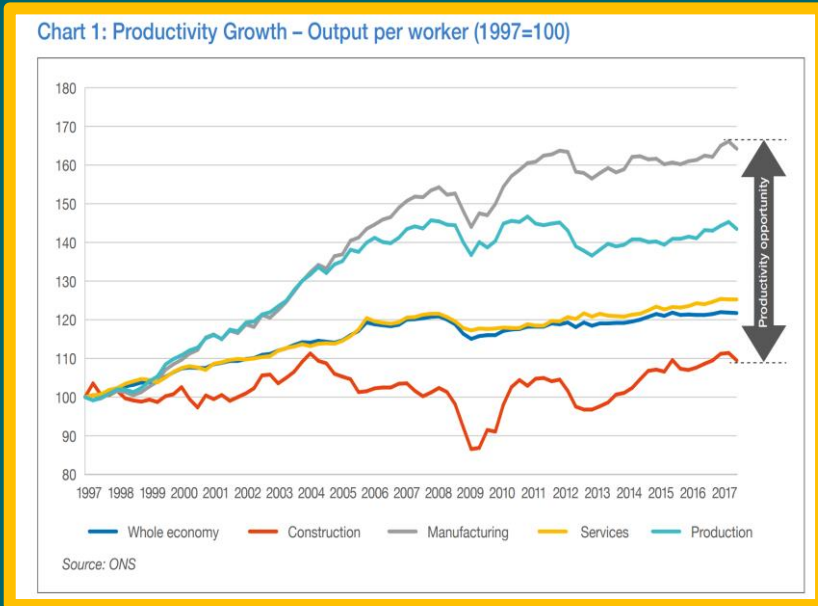
- Effectiveness refers to the **quality or value or scale** of the outputs; and
- Efficiency refers to some **ratio of outputs to inputs**

$$\text{Efficiency} = \frac{\text{Output}}{\text{Input}}$$

Improving productivity means increasing both effectiveness and efficiency.

The construction productivity problem

Chart 1: Productivity Growth – Output per worker (1997=100)

Source: ONS

Legend: Whole economy — Construction — Manufacturing — Services — Production

Unrecorded process waste 6%
Direct costs 5%
Indirect costs 7%
Latent defects 3%
79% Costs not due to error

Supervision time 2.1%
Extra breaks 13%
Productive time 55.5%
Unproductive time 29.4%

Construction Productivity Management (Chapter 1), Olomolaiye, Jayawarane, Harris (CIOB, 1998)

Changing to compete (2009) found that:

"Engineering construction project productivity in the UK was identified as being highly variable - up to twenty or thirty percent better or worse than average."

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Summary root causes of error:

- Culture

- Planning

- Design

- Supervision

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GIRI - The What

Strategic aim of GIRI

To **improve construction productivity & quality,** and **reduce costs & waste** by eliminating error.
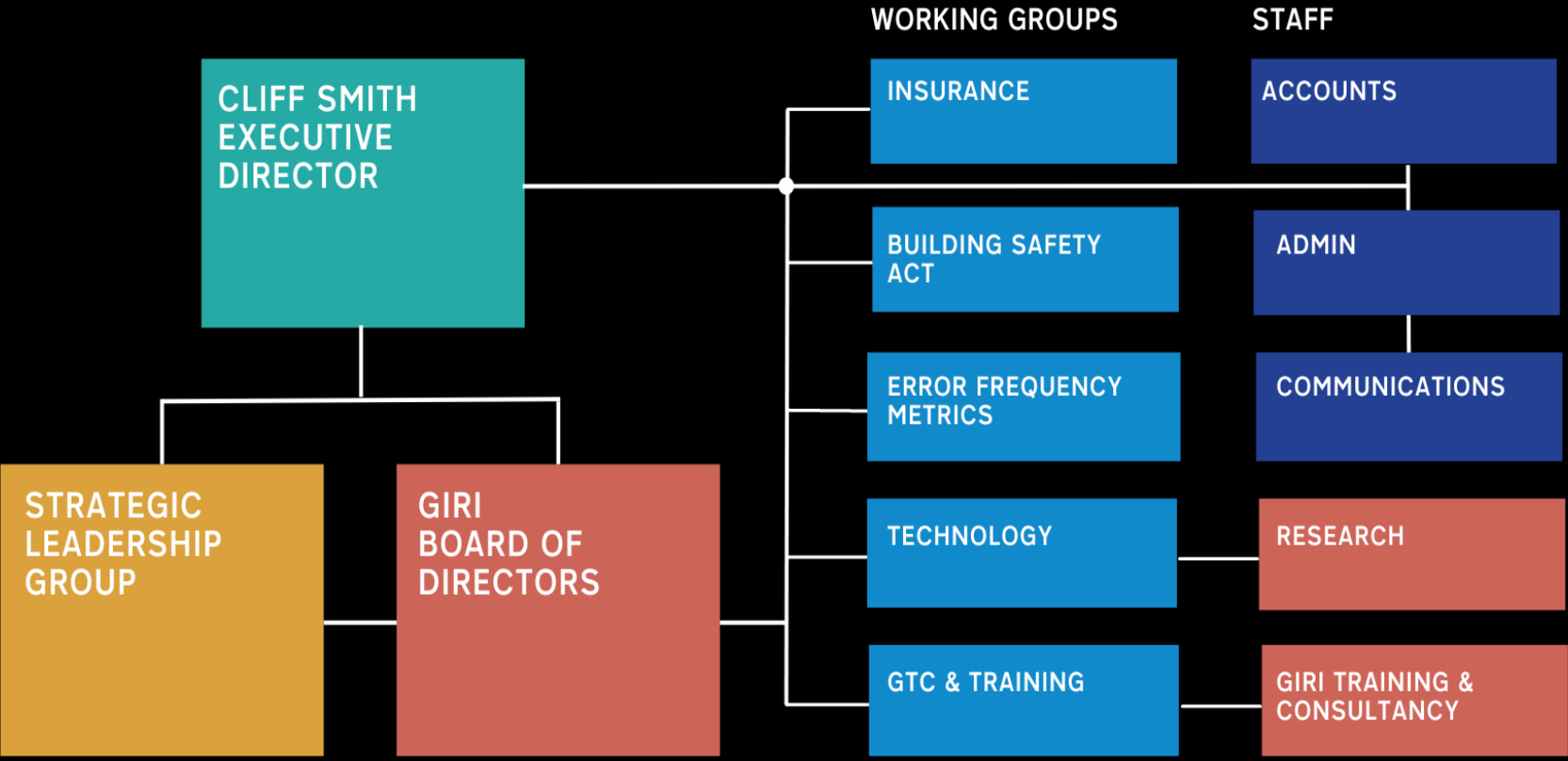
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GIRI aims and objectives

- Create a culture and working environment to get it right from the start.

- Change attitudes and harness leadership responsibility to reduce error and improve quality and productivity.

- Engage all stakeholders in eliminating error from inception, through operation, to completion.

- Share knowledge about error reduction processes and systems.

- Improve skills across the sector creating a positive approach to pre-empting error.

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GIRI strategic priority themes

- Deliver a strategic awareness campaign to improve sector attitudes to error
- Develop and implement an error reduction skills programme across the sector
- Develop improvements to processes, systems and technology to remove error
- Provide opportunities for members to share experience and network

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GIRI organisation chart

WORKING GROUPS

STAFF

CLIFF SMITH EXECUTIVE DIRECTOR

STRATEGIC LEADERSHIP GROUP

GIRI BOARD OF DIRECTORS

INSURANCE

BUILDING SAFETY ACT

ERROR FREQUENCY METRICS

TECHNOLOGY

GTC & TRAINING

ACCOUNTS

ADMIN

COMMUNICATIONS

RESEARCH

GIRI TRAINING & CONSULTANCY

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Strategic Leadership Group members

Mark Hansford   *Director of Engineering Knowledge,* ICE

Alastair Hitchcock   *Head of Engineering, Phase 2,* HS2

Emma-Jane Houghton   *Commercial Director AWE,*

Paul Lowe   *Partner, Kennedys*

Emer Murnaghan   *Head of Innovation,* Graham

Ed McCann   *Senior Director Expedition Engineering*

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Get it right

or

Is it right?

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Current GIRI membership: 90+ companies

- Government advisory bodies
- Clients
- Architects
- Structural and M&E engineers
- Tier one and tier two contractors
- Lawyers
- Insurers and insurance brokers

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AMCO·GIFFEN

AMCRETE UK
THE CONCRETE TECHNOLOGY SPECIALISTS

ARUP

ASHE
building better

AUSTIN TRANSIT PARTNERSHIP

AVIVA

AWE

BACHY SOLETANCHE

Balfour Beatty

bam nuttall

BENNETTS ASSOCIATES

BMD

Boundary Concepts

BOUYGUES UK

brymor group

BSF
BUILDING A SAFER FUTURE

CALEDONIA WATER ALLIANCE
WASTE WATER   WATER   MEDIA

Cohesive

COSTAIN

COWI

CRITIGEN

EFA Engineering

englobe

eviFile™

expedition

FARRANS
A CRH COMPANY

farrow walsh

FORMRIGHT
Form / Function / Delight

GallifordTry

GRAHAM

Heathrow

HinkleyPointC
Helping Britain Achieve Net Zero
edf CGN

Hitachi Solutions

H.
HOARE LEA

HOLLIS

HOUSES of PARLIAMENT RESTORATION & RENEWAL

HS2

ice
Institution of Civil Engineers

ICON

Imperial College London

Imtech

Infraco-Consulting

GIRI MEMBERS

VolkerStevin
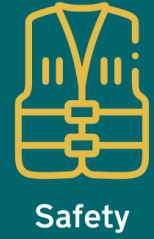
Wates

Weightmans

WHITEMOUNTAIN
Part of the Beacon Group

WILLMOTT DIXON

ZURICH

Training

Four CITB-accredited courses

- *Leadership training*

- *Interface & design management training*

- *Supervisor & manager training*
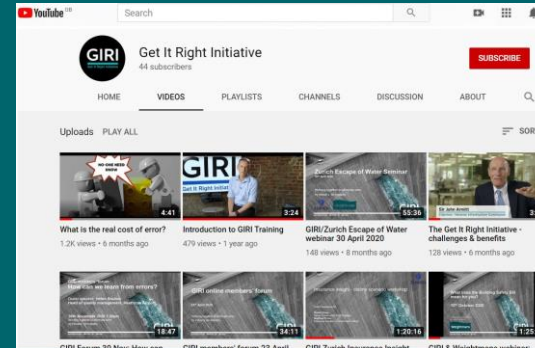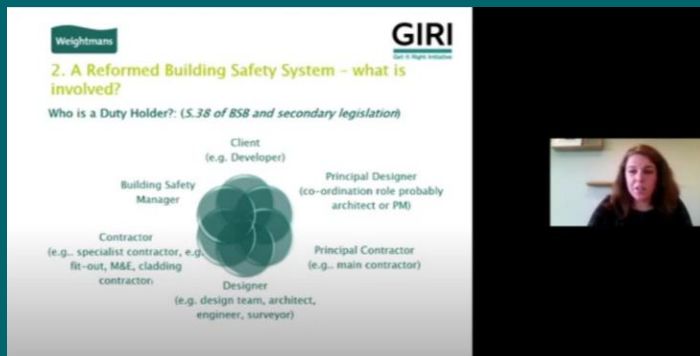
- *Train the Trainer*

GIRI **citb**
Working together to eliminate error
Training courses for the UK Construction Industry

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GIRI campaign

CIOB Academy
CPD webinar

GIRI webinars
Specialist content and Q&A with experts

GIRI YouTube channel
Explanatory videos and webinars to watch on demand

Supply Chain Sustainability School
E-learning module

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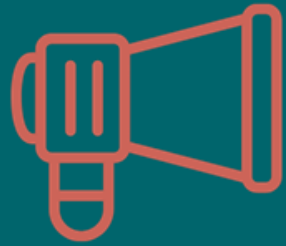
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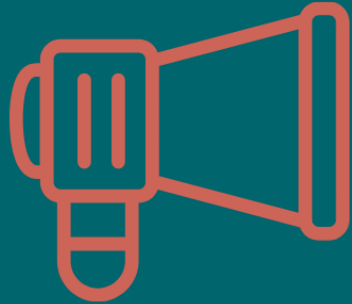
Campaigns

Communications – **strategy**

- Presentations and collaborations

- Aligning our message on error with wider industry challenges

    - Building safety

    - Productivity

    - Reducing error on the way to net zero

- Amplifying GIRI's voice through media and public affairs

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GIRI Error reduction process

Campaigns

Identifying errors

Measuring error
It is identified that error is not being measured in a consistent manner.

Identifying errors in the absence of data
The EWGs generate lists of common errors occurring across design and construction for each asset area. These lists are tested with independent experts.

Prioritising errors

Working with one Contractor Partner per asset area, the EWGs prioritise the top errors to address

Determining root causes

.
The EWGs for each asset area identify a set of root causes for each of the prioritised errors. The root causes sit under eight themes:
● Human Capital
● Materials
● Tools & machinery
● Time
● Energy
● Culture
● Land & Ecosystem
● Information & Data

Quantifying the opportunity

The EWGs also estimate the avoidable cost if the errors were addressed.
The avoidable cost for each asset area relates only to the Contractor Partner who identified and will deliver the avoidable cost opportunity for their relevant asset area.
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Developing potential interventions

A list of potential interventions are developed to consider when addressing each of the root causes. The potential interventions fall under five themes:
Internal core processes; technology;
core skills training; coordination & supervision; and culture & communications.
The potential interventions subsequently identified to reduce and prevent these errors will have an impact across the whole life of the project.

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Design Guide

- Re-edit following survey
- Edit complete
- New web-based platform for ease of navigation

Working groups

INSURANCE WORKING GROUP
Developing guidance to support error reduction, using insurance industry insight into common issues

TECHNOLOGY WORKING GROUP
Focussing on technology and learning to support the industry to improve quality of delivery.

BSA STEERING GROUP
Advising members and the wider industry on how to avoid error in implementation of the Act

CLC METRICS WORKING GROUP
Liaising with CLC to establish an industry-wide quality metric through proof of concept

Networking

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Driver of cultural & behavioural change in the industry

Working together to eliminate error,
by industry, for industry.

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