The Get It Right Initiative Members' Meeting 20th January 2020

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

AGENDA

Welcome and Executive Director's Report

Aims and Objectives for 2020

Communications

Error Frequency Ratio

One Piece Continuous Flow

BREAK

Galliford Try's Experience in Eliminating Error

Technology Working Group Research

Update on GIRI Training and Consultancy

Dates of 2020 meetings

Wrap Up



14 New Members in 2019



Member Workshops in 2019

- Balfour Beatty
- Brymor
- HS2
- Morgan Sindall
- Willmott Dixon
- Zurich



External Seminars in 2019

- AJ Gallagher
- CQI Birmingham
- ICE Birmingham and London (twice)
- Design Guide Being Launched on the ICE Learning Hub
- ICE South East Region
- Constructing Excellence Meetings at three different locations
- World Quality Events at Heathrow and Durkan



Reflections

Building a Safer Future Consultation

CIOB Quality in Construction

Persimmon Independent Review



Persimmon Findings of Independent Review

Led by Stephanie Barwise QC



The problem Persimmon has encountered with missing/improperly fitted cavity barriers is a systemic nationwide problem, which is a manifestation of poor culture coupled with the lack of a Group build process (a rigorous regime of Group controlled build, based on clear drawings and specifications supported by an appropriate supervision and inspection regime).



If the Board wishes Persimmon to be a builder of quality homes, meeting all relevant build and safety standards, then it should re-consider Persimmon's purpose and ambition. Persimmon has traditionally been more a land assembler and house-seller rather than a housebuilder. As explained in the Report, the Home Builders Federation star rating is a measure of quality as perceived by the customer shortly after completion, rather than a measure of the true quality and safety of the build. Therefore, if Persimmon does want to be, and be known as, a builder of quality homes, its aspirations cannot be realised simply by achieving a four or five star HBF rating.

 The Board needs to be clear about Persimmon's purpose and ambition, and its vision for the Company should be clearly articulated. Assuming this is to be a builder of quality homes, it is only then that the changes necessary to achieve this ambition can be properly formulated in a coherent, overarching strategy. The achievement of this ambition will also require changes in the culture of the business.



Aims and Objectives for 2020

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

GIRI

GIRI Strategic Aim

To improve construction productivity and quality by eliminating error.



Goals

- 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.



What should we be doing differently?



Communications

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

GR

Communications Update

GIRI Media Pack

Updated media pack being circulated to all Members

Aim: To support you talk about the change you'd like to see in Construction.

Ask: Connect GIRI Comms Mgr with Communications teams to develop opportunities





Members Meeting

Monday 20th January 2020

More Details

"Magic mirror..." Lean Construction Ireland Webinar

Wednesday 22nd January 2020

More Details

[P_P]

Get It Right Zurich Round Table Session

Monday 10th February 2020

More Details



Visit our Events page to stay up to date:

https://getitright.uk.com/events

[9-9]

GIRI Seminar at ICE London: How to improve productivity

Monday 2nd March 2020

More Details

[g-g]

Members Meeting

Monday 20th April 2020

More Details

9-9

Quality in Construction Summit

Wednesday 1st July 2020

More Del

More Details

[g_9]

GIRI Seminar at ICE London: How to improve productivity

Monday 6th July 2020

More Details

[4-9]

GIRI Annual Review

Monday 13th July 2020

More Details

9-9.

Members Meeting

Monday 12th October 2020

More Details



Quality in Construction Summit, 1 July 2020

Panel discussion

Call for participation from:

- Client
- Consultant
- Contractor
- Chair tbc.
- GIRI Member ticket offer: £149 vs full price £279



GIRI Client:

Report Title: Web statistics Report Generated: 12/12/2019

Report Range: 01/11/2019 - 30/11/2019

Total Days In Report:

Comments:

Website visits for November were 1,216 (41 visits per day). Average user session length was 2m32s (target is to remain between 2m30s - 3m) and on average 3 pages were viewed (target is to remain at 3 or more pages). The website bounce rate was 57% (target is to remain under 60%). The highest day for web traffic was the 4th November. There were 6 goal completions (6 memberships page form completions & 0 contact form completions). 15% of all traffic was from a mobile device, 79% from a desktop and 6% from a tablet

> Session Duration 00:04:12

> 00:04:00

00:03:54

00:03:45

00:03:44

20191121

20191113

20191111

Pageviews		Visits		Bounce Rate	
3,327 % of Total: 100.00% (3,327)	M	1,216 % of Total: 100.00% (1,216)	murt	56.83% Avg for View: 56.83% (0.00%)	-
Avg. Visit Duration		Pages/Visit		% New Visits	
00:02:32 Avg for View: 00:02:32 (0.00%)	www	2.74 Avg for View: 2.74 (0.00%)	·····	65.71% Avg for View: 65.71% (0.00%)	~
Number of User Sessio	ns Per Day	Content Overview		Average User Time on S	Site
Date	Sessions	Page	Pageviews		
20191104	88	/	828	Date	
20191114	74	/reports	288	20191106	
20191107	72	/courses	209	20191119	

/about /reports/research-report

Troffic Sources Oversions	
Fraffic Sources Overview	
organic d	rect Other
16.3%	
	40.4%
· ·	

Digital Comms

Website

1200 visits per month (average)

LinkedIn

Connections: 469

Company Page followers: 294

Group Members: 189

Twitter

Followers: 376



71

20191106

Partnerships

Be The Business

Construction Sector RoadmapIn Development



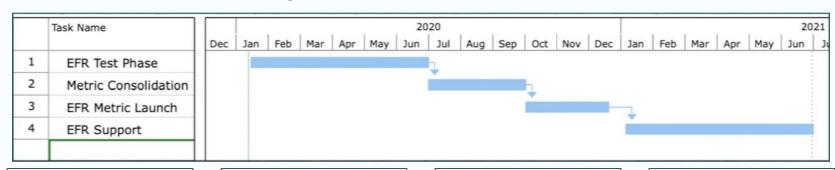


Test, Launch & Support Plan 14th January 2020

Get It Right Initiative: Error Free Ratio

- Outcomes of today;
 - Agreement to the test paper
 - Commitment to the data collection plan
 - Commitment to the timeframe
 - Support in engaging participation

Error Frequency Ratio: Test & Launch Plan



- 1. EFR Test Phase
 - a. Data Collection
 - b. Assessment
 - c. Calculation
 - d. Presentation
 - e. Consensus
 - f. Commitment

- 2. Metric Consolidation
 - a. Adjustment
 - b. Review
 - c. Preparation

- 3. EFR Metric Launch
 - a. Guidance
 - b. Governance
 - c. Toolset
 - d. Implementation

- 4. EFR Support
 - a. Challenges
 - b. Enhancements
 - c. Expansion



Test Paper Review

Data required:

Project Identifier (p)	Total number of items/issues outstanding at completion* (i)	Project Value (at completion) (v)	Sector

- Proposed metric formula: $\sum \frac{i}{v} * \sum p * \sqrt{v^{1.5}}$
 - p = projects
 - i = items or issues
 - v = value



EFR Test Phase

Objective is a successful test, enabling launch

Controlled and carried out per test document

Governed by EFR working group and GIRI leadership



Metric Consolidation

- Incorporate change
 - Determined by test
 - In line with desired outcome

Update test model for live use

Prepare for launch



EFR Metric Launch

Prepare industry guidance for implanting and reporting

Create a governance model to mange change

Agree and establish a 'home' for the tools

Generate release to accompany instructions and tool



EFR Support

Managed change and upgrades

Revision and update

Communication of results

Inclusion of non-GIRI membership



One Piece Continuous Flow

Ali Mafi

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

GIRI





Eliminating Errors at Galliford Try

Presentation to the GIRI Members' Meeting 20th January 2020



Lynden Haworth

Construction Support Manager ???



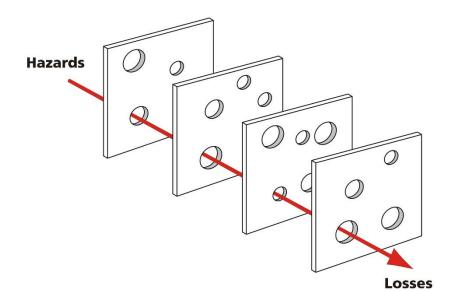
What is Error?

Error: Any action or inaction which results in a requirement for re-work, a requirement for extra work, or produces a defect...

Defect: Any failure to meet the project requirements at a handover

(Get It Right Initiative - Research Report - Rev 3, April 2016)

Learning from H&S





The Swiss cheese model of accident causation (also known as the cumulative act effect) is a model used in risk analysis and risk management.

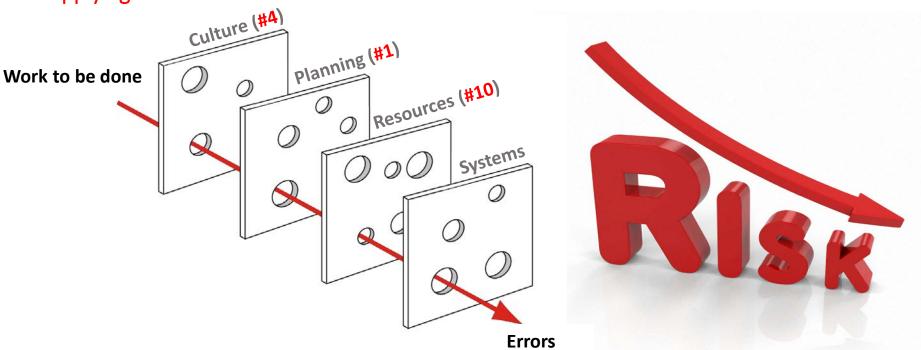
It likens human systems to multiple slices of swiss cheese, stacked side by side, in which the risk of a threat becoming reality is mitigated by the differing layers and types of defences which are layered behind each other.

Lapses and weaknesses in one defence do not allow a risk to materialise, since other defences also exist, to prevent a single point of failure.

Let's look at this in terms of error...

Applying what we have learned





Ranking of Root Cause of Error (Get it Right Initiative

A Call to Action)

Culture



Get It Right Initiative Members – November 2019















GallifordTry

















































































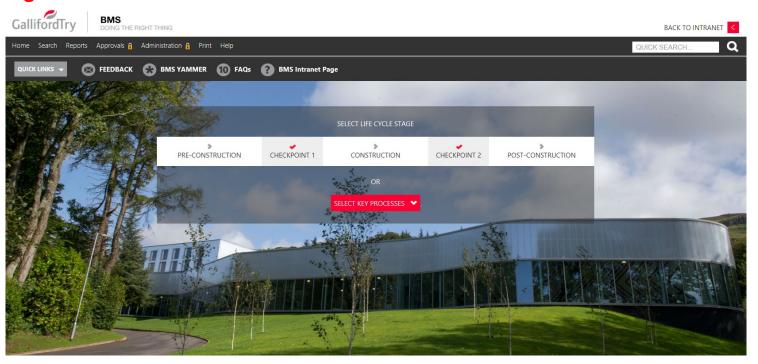








Planning



 Introduction of checkpoints between project lifecycles promote an increased level of Planning and governance.

Planning





Leadership Training

Training for Leaders in the construction industry

Course objectives

Courses for senior leadership in construction organisations that aim to inspire, engage and help participants reach a consensus about what needs to be done differently within their organisation and projects so that it becomes normal practice to 'get it right first time'. Participants of the course 'Strategies for leaders of construction projects' are encouraged to engage in follow-up (Part Two) sessions at intervals of 4-6 months in order to monitor progress and improve the effectiveness of the action plans developed in Part One. Both courses establish an agenda for the elimination of errors.

Core Messages

- Optimism Bias
- · Concern Cause Countermeasure
- Effective communication
- · Understanding of behaviours and its role in errors



Resources - GT





Designed to enhance / reinforce the technical competence of our people to a level where they can better supervise, check and challenge those completing works on our behalf.

In 2019 (the first full year of the PMDF):

- Modules Delivered = 32 No
- Total Attendees = 340 No

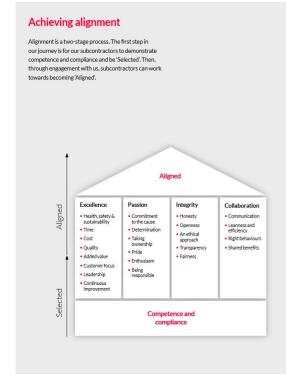




Resources – Supply Chain

GallifordTry





Advantages of alignment

As Advantage through Alignment matures, so too will the benefits, giving both Galliford Try and our supply chain a competitive advantage.

Benefits for our supply chain



Health and safety

 Improved performance in health and safety



GallifordTry

Sustainability

· Better social and environmental outcomes



Improved communication and collaboration

- Dedicated point of contact (Supply Chain Manager)
- · Visibility of our pipeline of works
- · News about our business
- · Legislation updates
- · Viewpoint
- · 360 degree review meetings
- · Feedback process for all bids
- · Better visibility of payment



Training programme

- · Alignment to our award-winning behavioural safety programme Challenging Beliefs, Affecting Behaviour
- · BIM training
- · Viewpoint training
- · Innovation days
- · Access to Continuing
- Professional Development (CPD)
- · Participation in the Supply Chain Sustainability School

Benefits of collaboration

- Relationships certified to BS 11000
- Joint efficiency improvements
- Enhanced transparency and openness
- Greater knowledge share

Benefits for Galliford Try

- Improved health and safety (Challenging Beliefs, Affecting Behaviour)
- · Alignment of the supply chain to our values
- Better value for our clients
- Reduced costs

- · Added value from trading relationships
- Reduced risk
- · Improved business processes
- Better quality control
- Better social and environmental outcomes



Resources – Project Wide

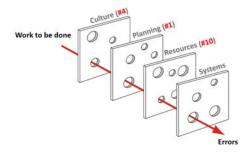






Projects that have tried and tested the Leadership Training modules can start to realise the power of all three training streams.

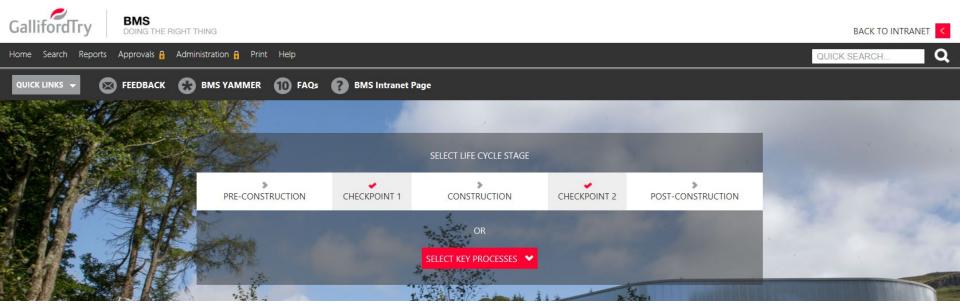
When used together the three training streams can help to strengthen our Error Free Culture, help us Plan more effectively and improve the competency of our Resources.



GallifordTry

41

Systems – Business Management



The GT Business Management System has been re-written and re-launched with key changes:

- Process Maps streamlined and prompt the identification of Risk;
- The role of the Inspection and Test Plan as a critical aid in delivering works in accordance with specification has been escalated.

Systems – Digital Working

DIGITAL WORKING





Digital Strategy - Mobile Platform

As part of a wider Digital Strategy our vision is to have a fully integrated Mobile Platform with which to operate our delivery processes and quality systems on site. Efficiency of our operations and maximising benefits from data usage are key outcomes supporting this vision. The new Mobile Platform is being developed from lessons learnt from the many projects using Field View across C&I and will integrate the principles of the new BMS, with an enhanced approach to Quality along with the integration of streamlined Health, Safety & Sustainability requirements.

What is being developed?

A Working Group, including Operational staff from across C&I have been developing the Mobile Platform requirements to drive a consistent & standardised approach across the business, enabling teams to focus on key roles of project delivery in line with the new BMS.

This has included assessment of our current inconsistent and differing methods across each Business Unit and to integrate lessons learnt and best practice into a new data driven Galliford Try standard approach. This will enable real time dashboard reporting of Quality and HS&S across C&I and assist project teams to be more effective and efficient on site and to deliver better quality projects to our clients.

The Working Group have focused on a number of key areas:

- Driving awareness and application of the new BMS
- · Renewed awareness of importance of quality of delivery & compliance
- Driving a collaborative approach to quality, with input and support from site teams and supply chain
- · Understanding the key project roles and responsibilities for project delivery
- Developing a standard approach to Inspection & Test Plans (ITP)
- Developing a standard approach to Check Sheets
- · Developing a standard approach to Health, Safety & Sustainability
- Developing a standard approach to Daily Diaries and Site progress photos
- Establishing a consistent approach to mobile device type, capability, set-up and software
- Enabling standard project reporting, dashboards for Weekly Meetings and Contract Reviews
- Establishing processes for project audit, non-compliance and improvement
- Enabling Quality and HS&S analysis across the business





- Fully integrated mobile platform to operate our delivery processes and quality systems;
- Efficiency of our operations and maximising benefits from data usage;
- Integrate the principles of the new BMS with <u>enhanced</u> approach to Quality.

And... So what???



Lynden Haworth

Construction Support Manager ???





Harnessing Technology to Eliminate Error Update to Members 20th January 2020

Cliff Smith GIRI Board Director

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

Harnessing Technology to Eliminate Error

Research Update

- At our last meeting I reported the Technology Group would be looking into the quantitative evaluation of the benefits of Technology adoption.
- A straightforward cost benefit analysis was found to be beyond the likely influence of the Group particularly with regard to release of confidential data by participants.
- We have therefore developed a survey which will still give quantitative outcomes and thus provide the evidence of benefit we are targetting



- Section 1 Background
- Section 2 Error-reducing digital design for construction/compliance
- Section 3 Error-reducing digital procurement
- Section 4 Error-reducing digital manufacture/subassemblies
- Section 5 Error-reducing smart construction sites
- Section 6 Priorities for investment in error-reducing technologies

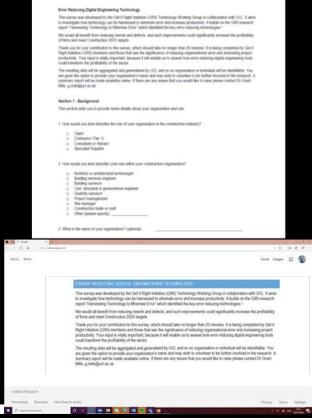
e.g.

Q11. What evidence is there that these digital design for construction/ compliance technologies have reduced error or increased productivity?

Please rate the frequency of YOUR ORGANISATIONS adoption of:

Q19. Error-minimising components that can only be installed the correct way

Low Adoption (One-	Moderate (A few	Half (Good	Majority	Full Adoption
off use e.g. <5% of	early adopters e.g.	proportion e.g.	(widespread	(mandatory e.g.
projects)	<20% of projects)	<50% of projects)	adoption e.g.	100% of projects)
			<80% of projects)	



Section 2 - Error-reducing digital design for construction/compliance

This section asks you to consider digital design for constructability/compliance technologies such as BIM, BIM libraries, digital process and design management and VR common data environments, digitized workflows for quality checking and site surveying. The various examples are provided on the GIRI website



2	Low Adoption (One-off use e.g. <5% of projects)	Moderate (A few early adopters e.g. <20% of projects)	Half (Good proportion e.g. <50% of projects)	Majority (widespread adoption e.g. <80% of projects)	Full Adoption (mandatory e.g. 100% of projects)
 Digitally supported site inspections with design software that is enhanced with the capture electronic images and notes on built quality and compliance checks. 					
Site (and factory) dimensional checks against designs such as laser scanning done at regular intervals to check work correctness and prevent problems of out-of-tolerance work.					
7. Visualisations derived from BIM models (e.g. augmented and mixed reality, wearable headsets overlay a virtual model onto what the user can see in the real world).					
8. Error-free BIM design data transferred directly to factory equipment (e.g. Installation information and Product Data Templates)					
 Tools to optimise design, planning and installation solutions (e.g. bulk material calculator and product selection). 					



Section 3 - Error-reducing digital procurement
This section asks you to consider how digital
procurement has been used to engage the supply
chain in error reduction through for example
collaborative planning, digitally enabled systems
integration and cloud computing.



3	Low Adoption (One-off use e.g. <5% of projects)	Moderate (A few early adopters e.g. <20% of projects)	Half (Good proportion e.g. <50% of projects)	Majority (widespread adoption e.g. <80% of projects)	Full Adoption (mandatory e.g. 100% of projects)
12. Vertical integration that includes single firm ownership of the supply chain through for example a full assembly factory.					
13. Collaborative planning and procurement that empowers the specialist supply chain for design for manufacture and assembly.					
14. Procurement 4D sequencing to coordinate the process by which components are designed, manufactured and assembled.					
15. Configurator platforms that apply early standards, rules, bills of materials and costs and manufacturing and assembly constraints.					



Section 4 - Error-reducing digital manufacture/sub-assemblies

This section asks you to consider the to what extent your organisation is applying modern methods in design for manufacture and assembly or industrialised manufacture and automation of processes.



4	Low Adoption (One-off use e.g. <5% of projects)	Moderate (A few early adopters e.g. <20% of projects)	Half (Good proportion e.g. <50% of projects)	Majority (widespread adoption e.g. <80% of projects)	Full Adoption (mandatory e.g. 100% of projects)
18. Component-led design that uses a proven component or material design to facilitate installation that reduces error					
19. Error-minimising components that can only be installed the correct way					
20. Pre-assembly of elements in the factory to prove correct fabrication					
21. Offsite manufacture in a stable and safe factory environment to deliver a consistent and predictable operation and quality					
22. Prototyping / design-production checks before scaled manufacture using mobile devices and laser scanning to check production units in comparison to design					



- Section 5 Error-reducing smart construction sites
- This section asks you to consider the application of on-site technologies to reduce error, such as smart sites, drones, computer numerical control, 3D printing, automation, augmented reality and digital skins.
- The various examples are provided on the GIRI website – www.link)



5	Low Adoption (One-off use e.g. <5% of projects)	Moderate (A few early adopters e.g. <20% of projects)	Half (Good proportion e.g. <50% of projects)	Majority (widesprea d adoption e.g. <80% of projects)	Full Adoption (mandatory e.g. 100% of projects)
25. On-site controlled					
environments to enclose a onsite					
environment for manufacture or					
training.					
26. Digitally supported site supervision and quality					
monitoring to allow mobile					
checklists for inspections of work					
on site (e.g. photographs and test					
plans).					
27. BIM object links to web pages					
or QR codes giving task-specific					
guidance or animations to ensure					
work is completed correctly.					
28. Simulator videos to show how					
onsite tasks should be done					
correctly.					
29. Simplified construction					
information tailored to specific					
tasks (e.g. dimensioned drawings					
and reduced jargon).					
30. Automation / robotics to reduce the need for site-based					
workers (e.g. to reduce					
hazardous working).					
31. Clean construction practices					
that for example minimise					
contamination.					
32. Sensors and cameras to					
provide real time information					
(e.g. infrared images of heat loss/					
dimensional surveying).					
33. Remote observation of					
production by the main					
contractor					



Section 6 – Priorities for investment in errorreducing technologies

This section asks you to consider which technologies are most effective in reducing error and increasing productivity.



6

38. These digital technologies will eradicate <u>ALL</u> rework and all defects (e.g. rather than 20% of project value there will be Zero rework and Zero defects)	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Don't know
39. These digital technologies will eradicate <u>HALF</u> of all rework and defects (e.g. 10% of project value)	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Don't know
40. These digital technologies will only <u>PARTIALLY</u> eradicate rework and defects (e.g. under 5% of project value)	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Don't know

IGIRI

Programme

- Issue by end of January
- Responses by end of February
- Results review, report and planning next steps by mid March

Questions



CITB Funded Productivity Training

in@GIRI

Key Statistics

Delivery of 128 courses to 918 attendees from over 60 companies

£278,602 funding claimed / paid from CITB to date (£37,998 to be claimed in January 2020)

£200,567 of 'benefit in kind' funding from participating companies

Training courses to be approved by CITB for grant purposes in April 2020



Key Achievements

Development of seven training course (plus associated Train the Trainer courses);

- Strategies to eliminate error for leaders of construction organisations
- Strategies to eliminate error for leaders of construction projects (Part 1 & 2)
- Avoiding construction errors at interfaces (Part 1: Collaboration during development/delivery & Part 2: Designing for construction)
- Reducing error on construction sites (Part 1: Supervision skills & Part 2: Planning skills)
- https://getitright.uk.com/courses

Production of marketing brochure

https://getitright.uk.com/resources/giri-training/giri-training-information



Error Free Culture Moving Behaviours: "Unhelpful Agreement" Triangle to to "Helpful Disagreement" Identify Interfaces Get-It-Right Spot-Assess-Collaborate model of planning Model to Manage Interfaces Personality Cards Get It Right Understanding the scale and impact of error in the construction industry Root Causes of Error Build-It-In-Your-Brain Press Pause to Avoid Error **Effective Communication Open Questions** Develop action plans **Optimism Bias** Get-It-Wrong "pre-mortem" model of strategic error prevention Leadership Processes

The Golden Thread



CITB Recognised Product

GIRI are liaising with CITB with a view to facilitating:

- CITB Approval of courses as 'Recognised Products'
- Recognition of GIRI Training & Consultancy (GTC) as the appropriate third-party organisation in relation to the accreditation of the courses and Training Providers (both external providers and in-house trainers)



Training Delivery

Three models for delivery of training:

- GTC deliver training direct (Model 1)
- GTC train GIRI approved training providers to deliver training (Model 2)
- GTC train GIRI approved in-house Trained Trainers to deliver training (Model 3)

GTC apply to CITB to become an Approved Training Provider (ATO)

Third Party ATOs (External Providers / In-House Trained Trainers) to be accredited by GTC to ensure training is of an appropriate standard and delivers the GIRI message correctly



Training Delivery – Existing In-House Trained Trainers

- Existing In-House Trained Trainers will continue to be able to deliver training out-with GIRI accreditation in short term
- Organisations to apply to GTC for accreditation to deliver training once accreditation scheme for CITB Recognised Products set up



GIRI Training & Consultancy – Legal Agreements

GIRI Training & Consultancy set up on 30/9/19

Business Plan for GTC agreed by GIRI Board on 23/9/19

Memorandum of Understanding and Licence for use of training materials agreed in principle between GIRI and GTC

Draft Shareholder Agreement and Articles of Association for GTC circulated on 20/12/19



GIRI Training & Consultancy – Arrangements

GIRI to hold 25% shareholding in GTC

GIRI to have non-executive director on GTC Board

GIRI to control direction of future training



GIRI Training & Consultancy – Scale Up

The Scale Up will involve:

- Develop Scheme rules, processes and procedures for managing the delivery of training to ensure standardisation and quality of training is maintained
- Develop and implement an accreditation process for External/Trained Trainers
- Develop course for operatives/new entrants (long term)



GIRI Training & Consultancy – Scale Up

Funding for the Scale Up will come from:

- GIRI £20,000 Grant
- Income from Transition Courses
- Hopefully Further CITB Funding



GIRI Training & Consultancy – Scale Up Courses

Current interest in courses (either direct delivery by GTC and/or through accredited External / Trained Trainers) from:

Balfour Beatty, BAM, Berkeley, Bouygues, Brymor, Foster & Partners, Galliford Try, Heathrow Airport, Hochtief, Hopkins Homes, Kier, Morgan Sindall, Network Rail, Royal Engineers, Sunninghill Construction & Wates



GIRI Training & Consultancy – Launch Event

Being planned for April 2020 following:

- CITB approval of training courses for grant purposes
- CITB issue of interim Evaluation Report on Productivity Training

To express interest in participating in Scale Up courses contact:

rachel.hogarth@giritraining.co.uk

https://getitright.uk.com/resources/giri-training/giri-training-information



2020 Programme

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

GR

Future Seminars and Workshops

- Wednesday 22nd January Magic Mirror Lean Construction Ireland Webinar
- Monday 10th February Zurich Round table
- Monday 2nd March ICE, Great George Street
- Tuesday 17th March ICE, Thames Valley Region
- Thursday 26th March HAWCE Seminar
- Wednesday 1st July Quality in Construction Summit
- Monday 6th July ICE Great George Street



Future GIRI Members' Meetings

- Monday 20th April
- Monday 13th July (Annual Review)
- Monday 12th October



Thank You for Your Support

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

GIRI