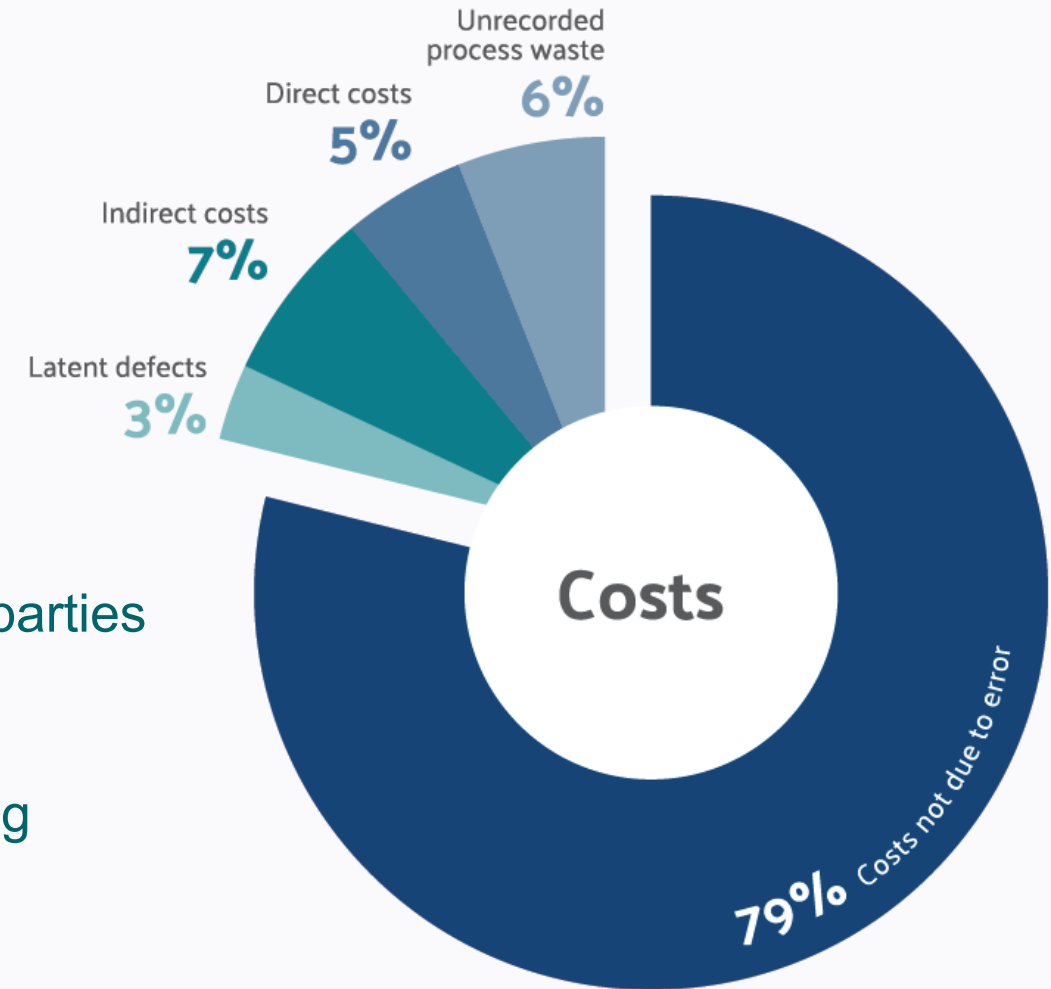# Wasted spend on error

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

Unrecorded process waste 6%

Direct costs 5%

Indirect costs 7%

Latent defects 3%

Costs

79% Costs not due to error

GIRI
Get It Right Initiative

The Get It Right Initiative Members' Meeting 14th October 2019

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

getitright.uk.com @GIRI_UK @GIRI

GIRI
Get It Right Initiative

Welcome

GIRI

Get It Right Initiative

Get It Right Initiative Members – October 2019

New Members

AGENDA

Welcome and Executive Director's Report

Roll Out of GIRI Training and Consultancy

Communications

Presentation by John Morrison-
The Australian Experience

BREAK

The Morgan Sindall Experience

Zurich Insurance Presentation

Design Working Group

Technology Working Group Research

Dates of 2020 meetings

Wrap Up

GIRI
Get It Right Initiative

External Campaigns

AJ Gallagher

CQI Birmingham

Constructing Excellence Midlands

ICE Birmingham

GIRI

Get It Right Initiative

Member Workshops

Balfour Beatty RAQ Away Day

Brymor GIRI Launch

Weightmans Seminar

Zurich Briefing

GIRI

Get It Right Initiative

Other Initiatives

Building a Safer Future Consultation

CIOB Quality in Construction

Error Frequency Ratio

- 100% support for a publicly reported "Error Frequency Rate" (EFR).

- Only a third of those polled believed their organisation would be prepared to share an error metric publicly.

- How do we crack that nut?

GIRI

Get It Right Initiative

Roll out of GIRI Training

Working together to eliminate error,

by Industry, for Industry.

GIRI

Get It Right Initiative

Background

- GIRI Research: identified root causes of error in construction

- 2017: CITB Launch £500K Productivity Commission

- £315K secured by GIRI members for 3 skills projects:

    - Leadership skills (Led by Kier)

    - Supervisor and Manager Skills (Led by VINCI)

    - Interfaces (Led by Berkeley

- Projects due to complete by end of 2019

Outcomes

- **7 GIRI training courses** developed
- Associated **Train the Trainer modules**
- Piloted over **18 months**
- **800 +** delegates
- **60 +** organisations
- Evaluation showing consistently **high levels of satisfaction**

GIRI
Get It Right Initiative

Feedback

"This course was the best I have been on in my entire career at XXX…"

"…It is relevant not just to construction but to pretty much all other businesses and business processes…"

"…the way the course was structured and presented brought the key messages across in the most effective way. Practical exercises were relevant and appropriate and were designed so that all participated and no one individual was allowed to dominate."

"I can only imagine the impact on [Multi £Bn mega-project] if we had implemented some or all of the concepts in the way the course proposed."

"The exercises identified real world roots of errors and brought interesting discussion to the table"

GIRI

Get It Right Initiative

Next Steps

- Objectives for Scale Up:

  - GIRI Training to be **accessible** to the industry

  - Build **capacity / capability** to upskill UK construction industry on error-reduction

  - **Maximise impact** on productivity and profitability

GIRI

Get It Right Initiative

Next steps

GIRI Training and Consultancy Limited to:

- Build three **Models for delivery** of GIRI training:

  - GIRI Training and Consultancy
  - GIRI Approved Training Providers
  - In house training via GIRI Approved Trained Trainers

- Set **Standards** to ensure GIRI training is delivered in accordance with scheme rules

- **Quality Management systems –** to manage training quality and monitor impact on error in construction

- Provide a sustainable **long-term income stream for GIRI** through licensing of training
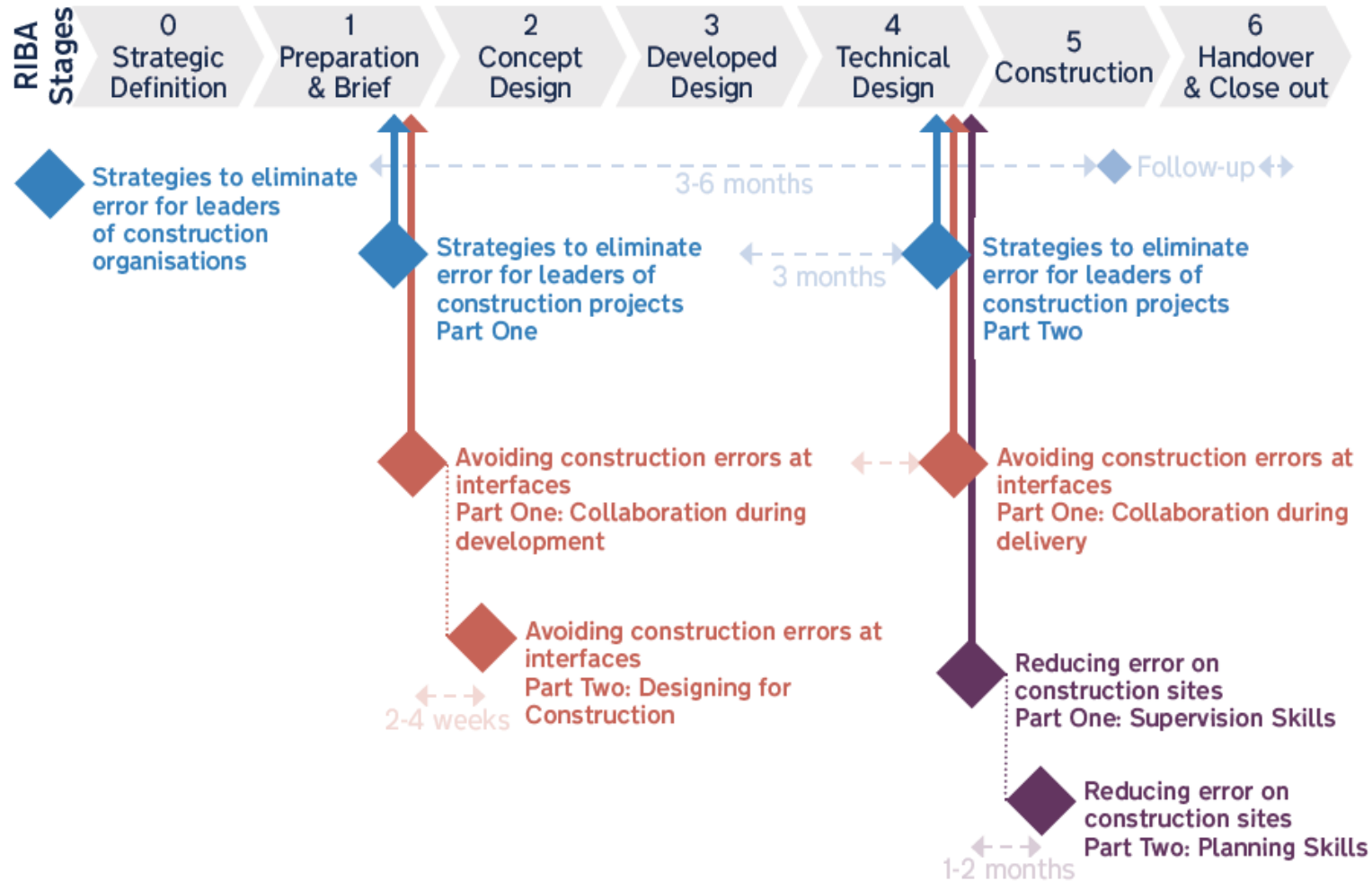
GIRI
Get It Right Initiative

"Golden Thread"

Courses

Transition Courses

- Allow GIRI members to attend courses (at discounted rates)

- Prevent loss of corporate knowledge

- Develop professional trainers

- Fund the development of the full roll-out programme

- *Complete in 9-12 months???*

Transition Courses now available

Supervisor & Manager training:

- Reducing errors on construction sites – Part one: Supervision Skills

- Reducing errors on construction sites – Part two: Planning Skills

Interfaces:

- Avoiding construction errors at interfaces – Part one: Collaboration

- Avoiding construction errors at interfaces – Part two: Designing for Construction

GIRI

Get It Right Initiative

To book

Visit https://getitright.uk.com/

Use link on **GIRI Training** page to book.

Enquiries: rachel.hogarth@getitright.uk.com

GIRI

Sponsoring a course

- GIRI members can sponsor a course during the tr[...]
  phase:

  - Provide suitable venue/ refreshments

  - 2 free places

  - Any remaining spaces to be made available to host company and/or wider industry

  For information on sponsoring a course:

  rachel.hogarth@getitright.uk.com

GIRI
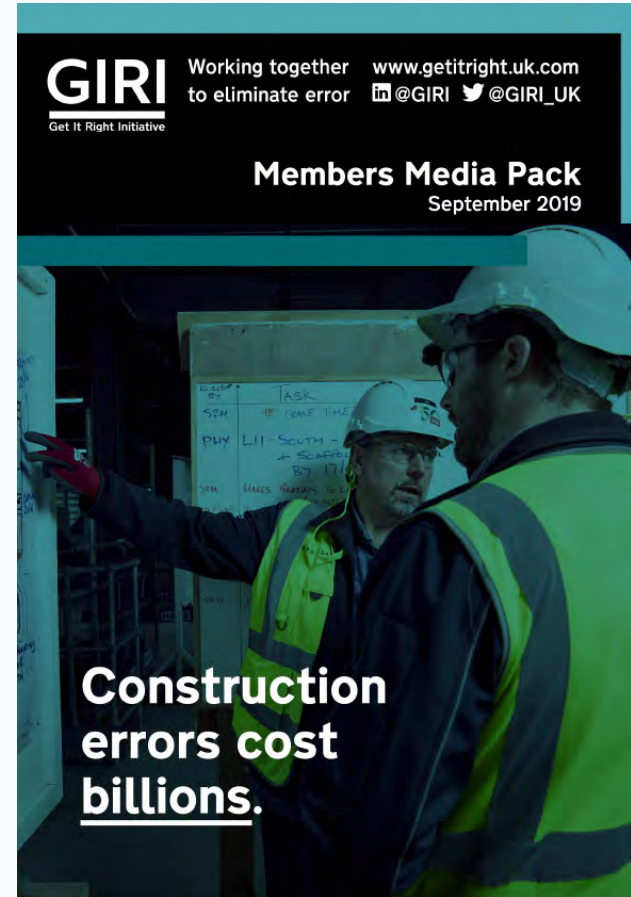Get It Right Initiative

Communications

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

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Get It Right Initiative

Communications Update

GIRI Member Communications

Updated media pack to support Member Communications

Drive to connect with Member Communications teams - contact details for only 5 Members

Upcoming events

<u>2019</u>
14 Nov	World Quality Day
14 Nov	Durkan WQD private event
19 Nov	Heathrow Supply Chain World Quality Day
20 Nov	Skanska Senior Management Workshop
21 Nov	Construction Productivity Conference
27/28 Nov	London Build Expo, Olympia
12 Dec	Surrey Training Group

<u>2020</u>

tbc	Lean Ireland Dr Peter Love Webinar
1 Jul	Quality In Construction Summit, London
tbc	ICE Regional Seminars
tbc	ICE Lunch and Learn Webinar

getitright.uk.com   🐦 @GIRI_UK   in @GIRI

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London Build Expo

Opportunities

• GIRI presentation and/or panel discussion

• GIRI to host a 'Construction Error Culture' Industry networking session to focus on how GIRI is tackling error via Training

GIRI

Get It Right Initiative

Quality in Construction Summit, July 2020

Opportunities

• GIRI panel discussion – client, consultant, contractor, chair tbc.

• GIRI Member ticket offer: £149 vs full price £279

QUALITY IN CONSTRUCTION SUMMIT

1 JULY 2020
CentrEd at ExCeL, London

GIRI

Rework Hurts People and Projects

GIRI UK Presentation Oct 14th 2019

Frontline Coach Director John Morrison

AGENDA

1. Construction Rework and Quality Challenges in Australia

2. Published Research on Costs/Safety impacts of Rework

3. Case Studies:

      - Barwon Water Authority

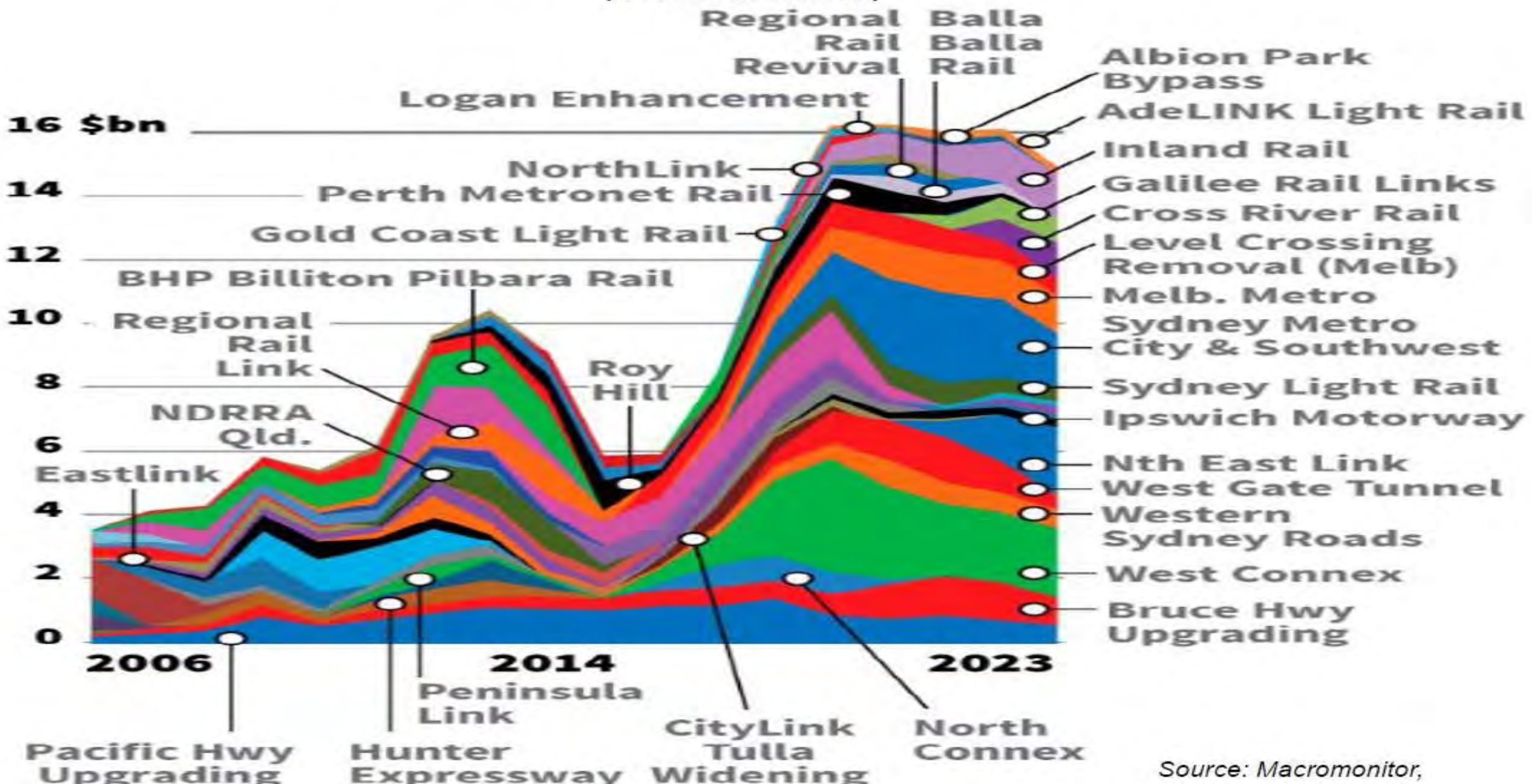   - Melbourne Level Crossing Removal Program

      - Buildcorp

REWORK

The unnecessary effort of redoing an activity or process incorrectly implemented the first time

Professor Peter Love, Curtin University, 2001

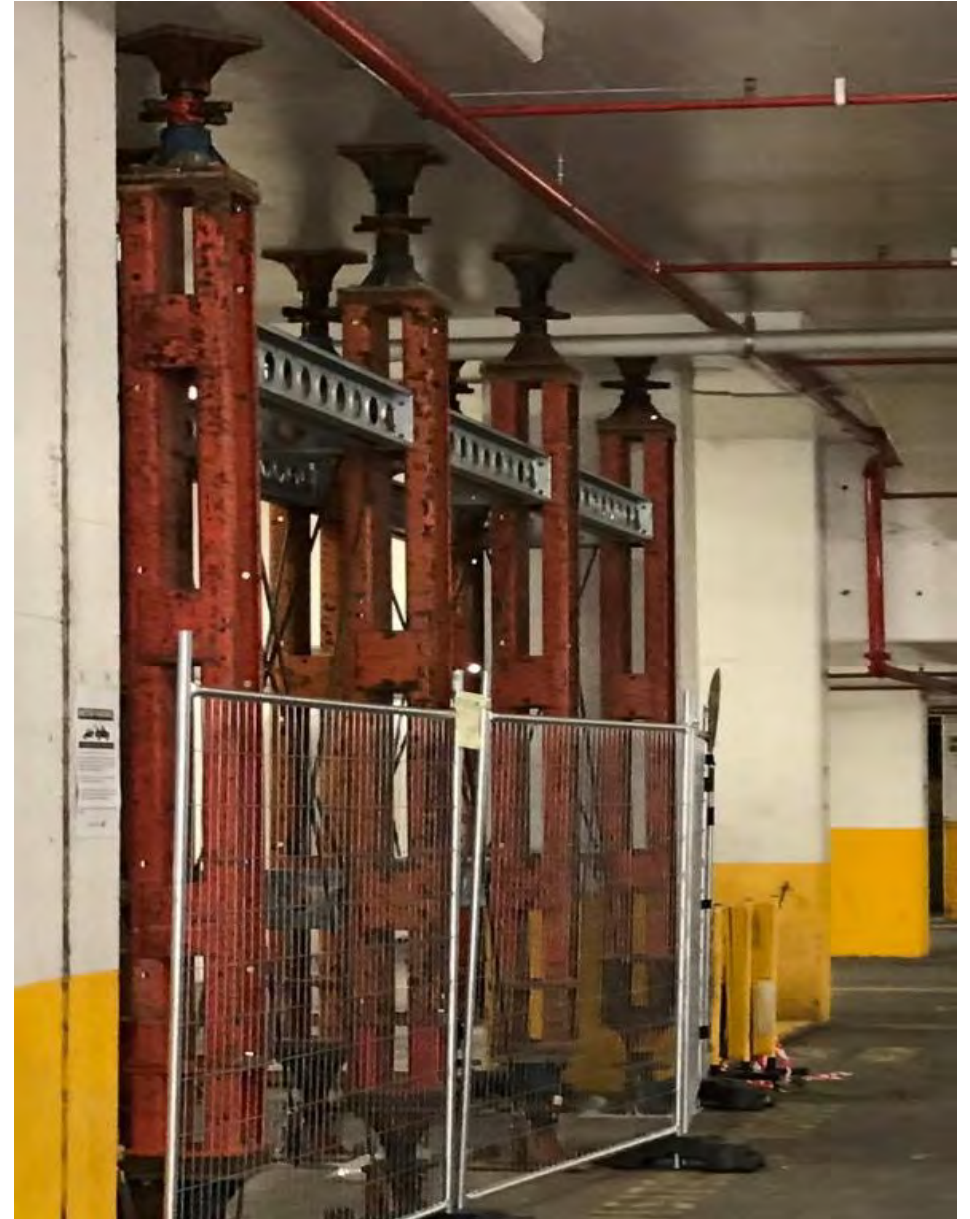# MAJOR TRANSPORT INFRASTRUCTURE PROJECTS
(value of work done)

Regional Rail Revival

Balla Balla Rail

Logan Enhancement

Albion Park Bypass

AdeLINK Light Rail

NorthLink

Inland Rail

Perth Metronet Rail

Galilee Rail Links

Gold Coast Light Rail

Cross River Rail

BHP Billiton Pilbara Rail

Level Crossing Removal (Melb)

Regional Rail Link

Melb. Metro

Roy Hill

Sydney Metro City & Southwest

NDRRA Qld.

Sydney Light Rail

Ipswich Motorway

Eastlink

Nth East Link

West Gate Tunnel

Western Sydney Roads

West Connex

Bruce Hwy Upgrading

16 $bn

14

12

10

8

6

4

2

0

2006

2014

2023

Pacific Hwy Upgrading

Peninsula Link

Hunter Expressway

CityLink Tulla Widening

North Connex

Source: Macromonitor,

Sydney Light Rail; One year late and $500,000 over budget

APARTMENT CONSTRUCTION

- 114,000 apartments built in Sydney alone in last 5 years
- Endemic cladding issues
- Significant defects leading to occupier evacuations
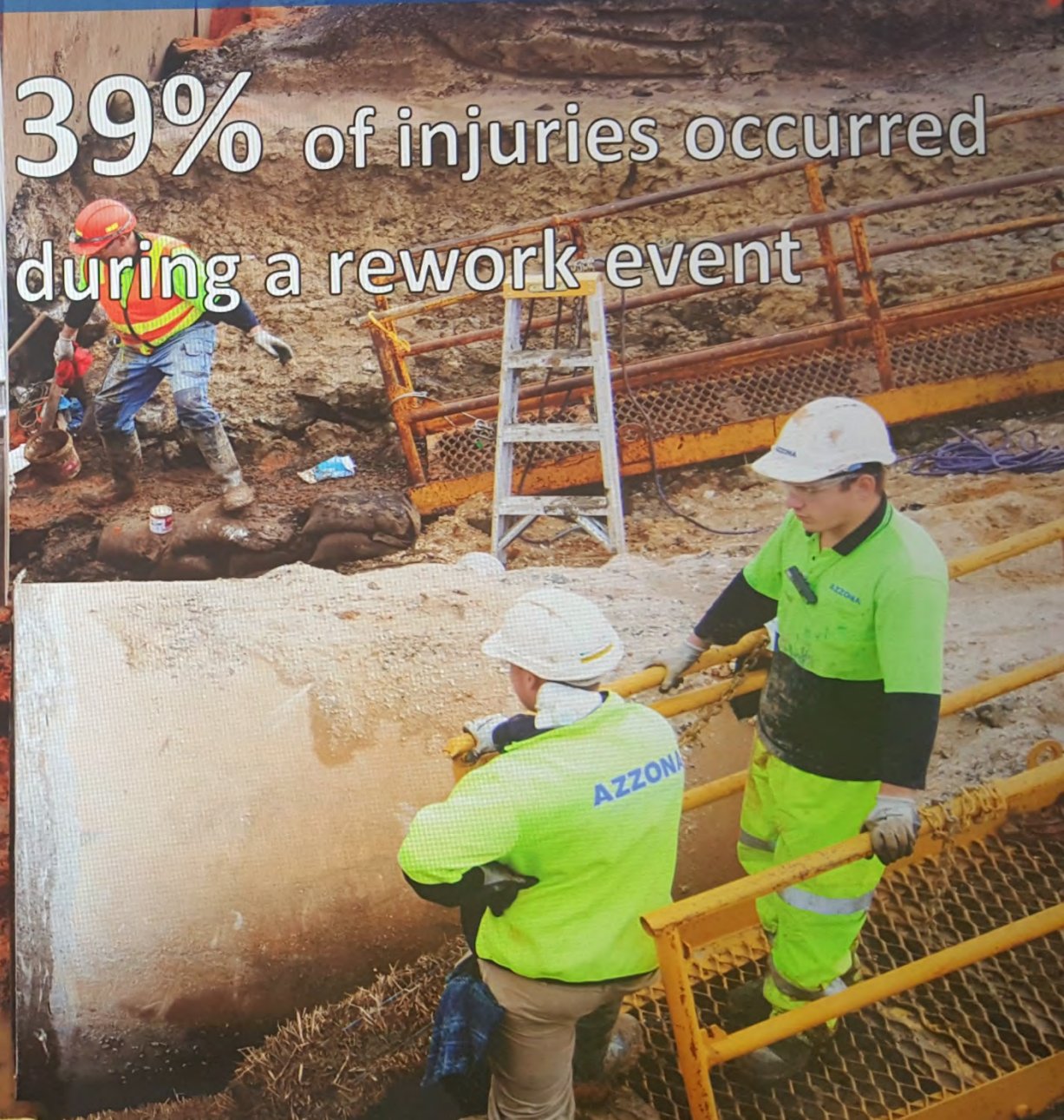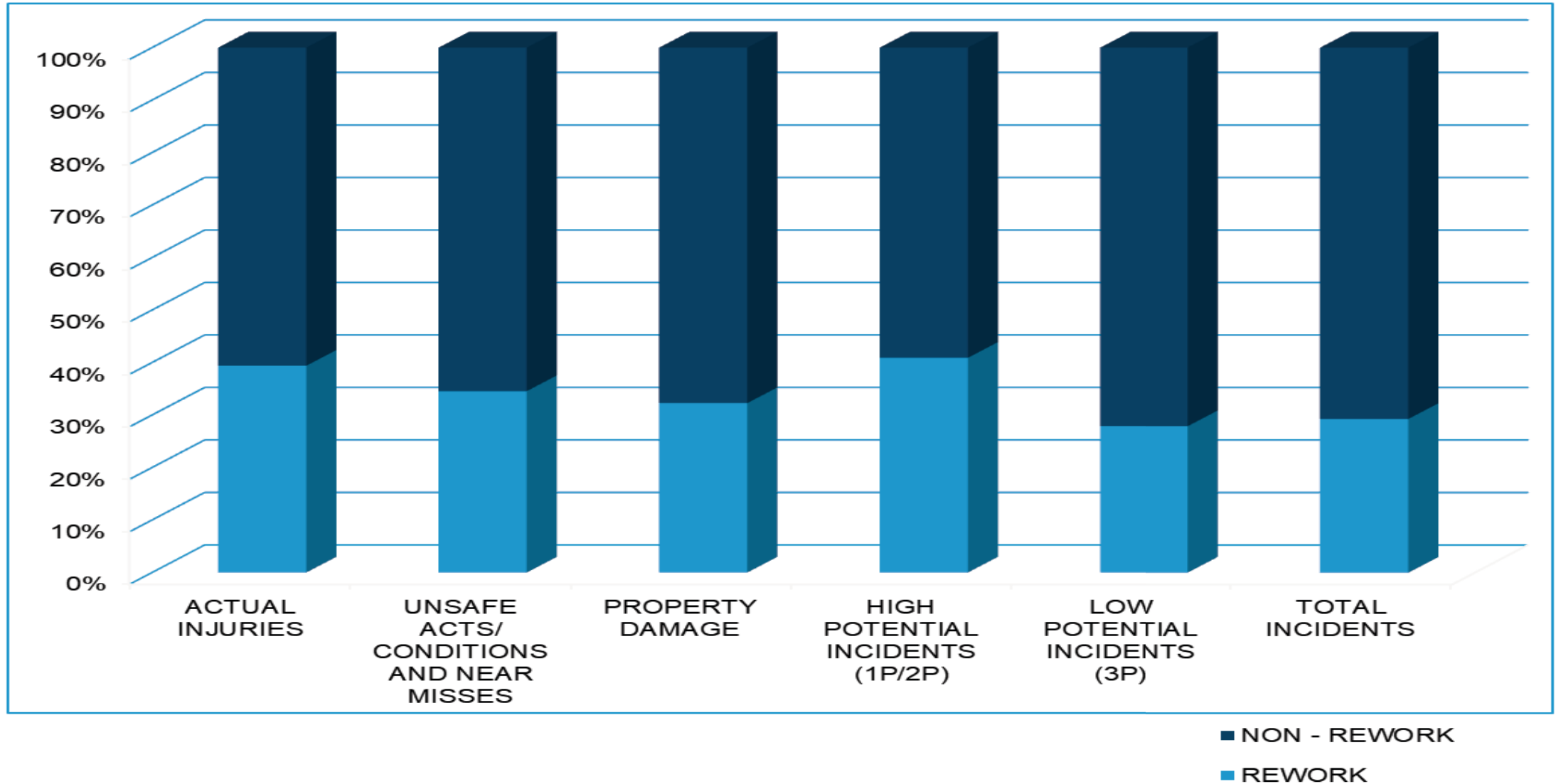- Inconsistent legislation across state governments leaving owners exposed

Bar Graph of Incidents during Construction Rework/Non-Rework Activities 2009-14

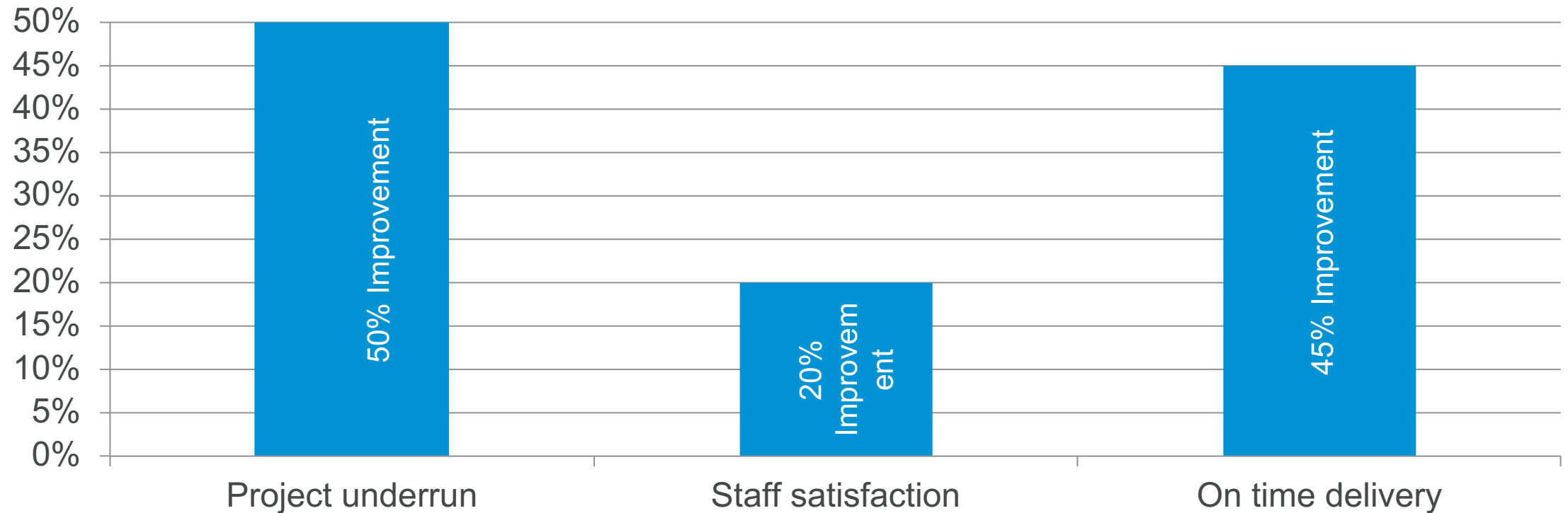[Video of BWA staff talking about Rework Prevention Program](#)

Results - SQE

BWA SQE Journey

Ongoing refinement of SQE Risk Management tools

- Code of Conduct launched
- SQE expectations clearly defined
- (Sub)Contractor SQE leadership training launched
- In-house key risk area training and behavioural based inductions launched
- Pre construction leadership risk walks and workshops introduced
- Site culture checks
- On-line audits and inspections
- (Sub)Contractor Director engagement

Y-axis: LTIFR (0.0 to 14.0)

X-axis: Aug-11, Oct-11, Dec-11, Feb-12, Apr-12, Jun-12, Aug-12, Oct-12, Dec-12, Feb-13, Apr-13, Jun-13, Aug-13, Oct-13

PROJECT LEADERSHIP PROGRAM 2016 to 2019

- Mthly Workshops with project teams/contractors

- Trialled on seven key BW projects

- Optimised learning and error mitigation

- Two papers under international journal peer review

Australian Construction Research

>**38k** NCRs examined >**55k** safety incidents

■ **70%** increased probability of injury on rework

■ **20** to **30%** loss in mean yearly profit

Workers have 70% greater probability of being injured while attending to rework;

(Love et al, Journal of Production Planning and Control, Jan 2018)

LEVEL CROSSING REMOVAL PROJECT in MELBOURNE

- Removal of 75 rail crossings by 2025

- Estimated cost of $15 Billion

- Work packages shared between Five Alliances

- 30 crossing removals completed by Sept 30th 2019

- Continuous Improvement Program to address Rework

Australian Construction Industry Exemplars

Buildcorp

➢ $500 million Turn Over
➢ Employ 1,000 people
➢ Delivered two $80 million multi-story projects defect free in 2018

Keystone Civil

➢ $40 million Turn Over
➢ Employ 45 people
➢ Also consistently deliver $million projects defect free

Get it Right Initiative

OUR JOURNEY….

Steffan Speer

14 October 2019

MORGAN SINDALL

CONSTRUCTION

MORGAN SINDALL
CONSTRUCTION

Construction			Regeneration	
Construction & Infrastructure	Fit Out	Property Services	Partnership Housing	Urban Regeneration
MORGAN SINDALL CONSTRUCTION INFRASTRUCTURE	overbury Morgan Lovell	**MORGAN SINDALL** PROPERTY SERVICES	**LOVELL**	muse
Delivery of vital UK infrastructure and construction	Fit out of new and existing offices	Housing maintenance programmes	Housing-led regeneration – massive supply/demand imbalance	Mixed-use urban regeneration is a key UK priority

MORGAN SINDALL INVESTMENTS ← → **MORGAN SINDALL** INVESTMENTS

Underpinning Group company activities

Quality in construction – What are the issues?

Paul Nash, chairman of the CIOB's
Construction Quality Commission, said:
"Quality, or rather the failure of quality, is
arguably the most important issue facing
the construction industry today.

The Issues

Key international studies suggest that the direct costs of avoidable errors are in the order of 5% of project value. Our research has revealed that the true figure is closer to 21% or £21Bn per annum.

GIRI's 2015 research conducted with our study group and members of their supply chains revealed that when unrecorded process waste, latent defects and indirect costs are included, the situation gets much worse with estimates of total costs of error ranging between 10% and 25% of project cost or between £10–25Bn per annum across the sector.

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

Quality strategy

1. To create a **culture** where everyone focusses on quality and thereby reduces defects,
2. To harness and use new technologies to help identify and eliminate defects,
3. Develop every employee's potential and knowledge so that we all understand how to get it right first time,
4. To improve the Morgan Sindall Quality Delivery management processes and systems,
5. Identify key performance indicators to capture and improve quality on our projects and create a best practice database.

Get it Right First Time Every time

Develop potential and knowledge

⊖ Back to curriculum

Quality management

☆☆☆☆☆

Description

Defective work costs the construction industry millions of p...

The quality limb of the Morgan Sindall project managemen...

- What is quality?'
- Why is quality management required and important...

This aligns with the Morgan Sindall Perfect Delivery philoso...

Click here to see our Quality Alerts in Digest.

Progress: 70%

SIMSgo

SIMS Tutorial

This eLearning
SIMS:

∘ setting...

Avoidable Construction Errors workshop

☆☆☆☆☆

Description

A half-day workshop for senior managers from all disciplines that considers the impacts of avoidable construction errors, examines their 'root causes' and explores approaches to avoid them. Workshops are tailored to the specific business unit and the outcome will be a plan of action to Get It Right.

- The workshop will leverage the research and findings of the Get it Right Initiative:
- The cost of error, could it be 20% of total cost?
- The areas of work resulting in high cost errors
- The real issues or 'root causes' of error – identifying them with the 'five-whys' technique
- The investment priorities to reduce error
- The key areas for attention – identifying them with the 'critical success factor' technique
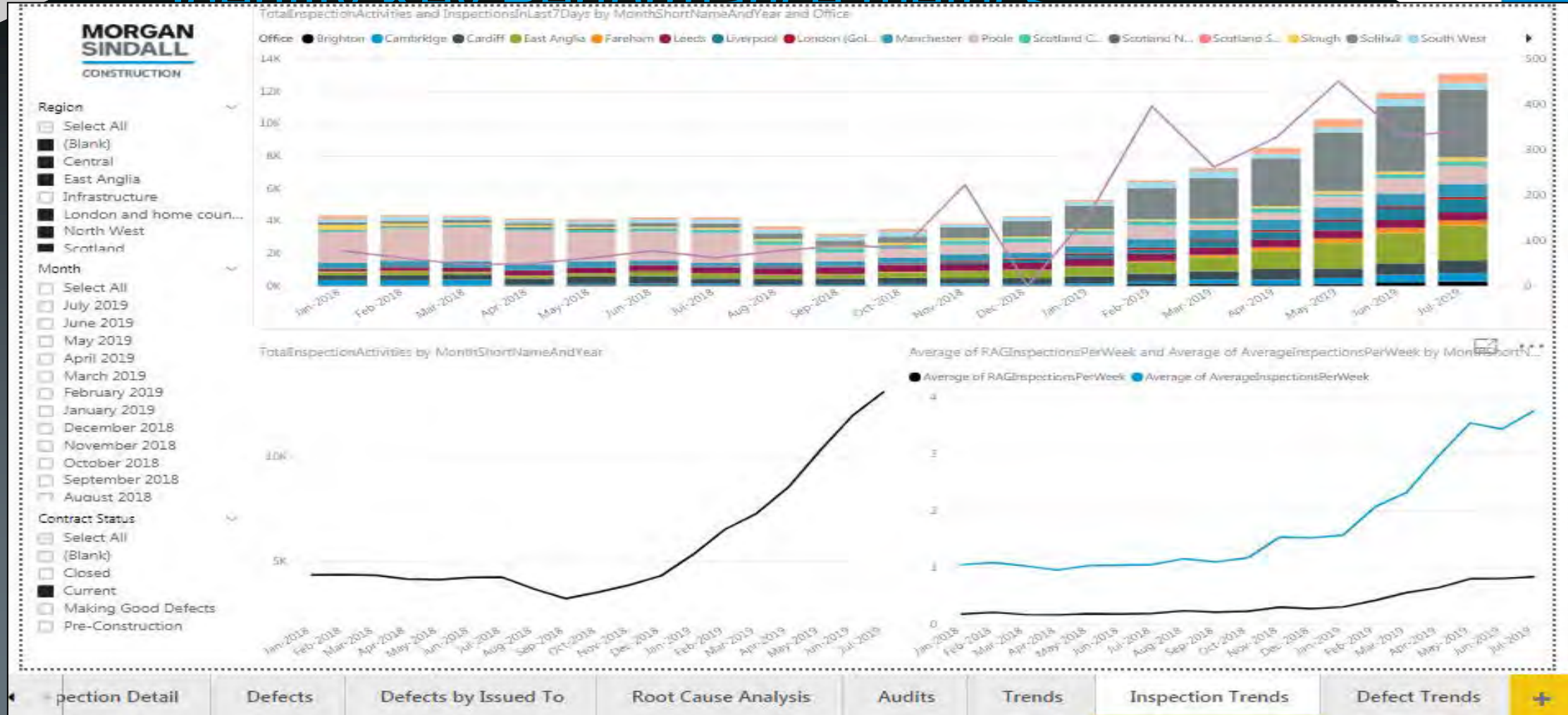
Workshop objectives

- Think differently about errors with a renewed interest in their costs -Become familiar with different techniques for understanding errors
- Form a shared opinion about the best plan of action for the individual and the business
- Be able to convince others to act and support the plan and for everybody to work together
- Stop think and plan

Avoidable Construction Errors Workshop

getitright.uk.com

Identify Key Performance metrics

Identify Key Performance metrics

The results and successes

'Perfect Delivery's' principles are working well to support delivery of the customer experience

"Everyone has a responsibility for safety"	**Safety is rarely mentioned** Safety is not an area that emerges spontaneously during interviews. **MS is trusted to deliver safe projects; it's a 'given'** considering the good reputation the company has.
"Doing what we'll say we'll do"	**Proactive and transparent communication** Strong communication emerges as a theme across interviews/regions and how MS seeks to not only keep the team/customer informed, but **work with them at every stage so they are few surprises.**
"Get it right first time – every time"	**Trusted to deliver** A focus on quality and excellent relationships with a strong supply chain create a feeling of confidence and robustness in the MS team. Customers/consultants have a high degree of trust in how MS effectively manages a project to return a good result.
"Delight your customer all the time"	**Committed to the customer, community and project** There are many stories which bring to light how MS 'goes the extra mile' to create those 'WOW' moments. In some cases, expectations are exceeded and show Morgan Sindall's experience and commitment to not only the project but something bigger.
"Recommend-ation is the ultimate accolade"	**Easy to recommend** Most consultants and customers speak highly of MS, how they like to work with you and **how easy they find it to recommend you (us), when asked.**

The Process and Business Improvement Conference

Thank you for listening

Steffan Speer

MORGAN
SINDALL

CONSTRUCTION

Working together with Insurers

Tom Thornberry

Head of Construction Claims

Zurich Insurance Plc.

GIRI

Get It Right Initiative

The Myth?

YouGov

68% of Brits think
insurers will wriggle out
of claims

The Reality!

Insurance relevant to Construction

Professional Indemnity

Construction Professional Indemnity, also known as Design and Construct Professional Indemnity, is designed to protect contractors and sub-contracted specialists, such as electrical engineers or cladding contractors for allegations relating to errors in their work or incorrect design.

Contractor's All Risks (CAR)/Erection All Risks (EAR)

CAR/EAR policies provide cover for the construction works of residential, industrial, commercial, office buildings and/or erection works (equipment, installations and technological and productive equipment). The coverage under CAR/EAR policy is "all risks" cover. This cover can also include 'Delay in Start Up'.

Civil Engineering Completed Risk (CECR)

CECR insurance provides coverage against losses or damages to civil engineering structures after their completion such as highways, roads, bridges, tunnels, dams etc.

Get It Right Initiative

Trends from the Market

- Top three causes for Zurich in past 5 years (by total incurred):

    1) **Storm** – 28% of incurred

    2) **Accidental Damage** – 20% of incurred

    3) **Defective Design/Materials/Workmanship** – 16% of incurred

From our top three causes – 36% are claims that likely could have been avoided. This doesn't include Escape of Water, Ground Movement etc.

- From Underwriting perspective, at a high level, we do see some trends when writing risks:

  - **Lack of consistency** – We see a lack of consistency in approach to major infrastructure projects as compared to 'run of the mill' jobs. Need to ensure a level of risk management/avoidance is maintained consistently.

  - **Roads, High Rise Buildings, Tunnels** – We have seen a number of issues on these types of risk.

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Impact of Claims

➢ Premium v Claims paid

➢ In recent years there has been a spike in large claims.

➢ Insurers price based on portfolio experience – i.e. if we experience a large portfolio of high value claims, this will impact our pricing.

➢ It is therefore in all our interests to reduce error on site that may cause a claim.

➢ Fewer claims will increase competition in the market and reduce premium and soften policy terms.

ZURICH

GIRI

Our Ethos

➤ We want to partner with our customers to prevent claims, however if they do happen we will be there to support.

➤ As a major insurer, we try to lead the market and have influence. We want to drive this ethos forward.

Claims Commitment:

➤ Zurich promises our claims service will be, **Personal, Effortless, Clear, and Collaborative**.

➤ When you make a claim, a **dedicated claims expert** will contact you as quickly as possible and within 24 hours. If appropriate, we will appoint a dedicated **third-party expert** as quickly as possible and within 24 hours.

➤ If it is clear what caused the incident, we will provide our **initial view** on policy liability within 48 hours.

Get It Right Initiative

Our Ethos

➢ If Zurich and your business agree the claim will potentially cost more than £250,000, we will:

- arrange and hold a **conference call or meeting** within 5 days of the claim being notified.

- let you know the **additional documentation** and/expert evidence we need to assess your claim, no later than 7 days after you first notified us.

- give you an **initial view** about paying your claim within 72 hours of receiving all the information we need.

- **pay you an interim amount**, if required or requested, within 72 hours of us agreeing to pay the claim. We will always try to put you in the best financial position possible.

- **pay the final amount** within 72 hours of us receiving the documents we need, unless we've agreed and documented otherwise in release or settlement papers.

Thank you!

Thomas Thornberry

Solicitor

Head of Construction Claims

Phone: +44 (0)207 648 3231

Mobile: +44 (0) 7875 886622

Email: thomas.thornberry@uk.zurich.com

Design Working Group - Update

GIRI
Get It Right Initiative

Design Working Group - Update

Dr Andy Painting

14th October 2019

GIRI

getitright.uk.com   @GIRI_UK   @GIRI
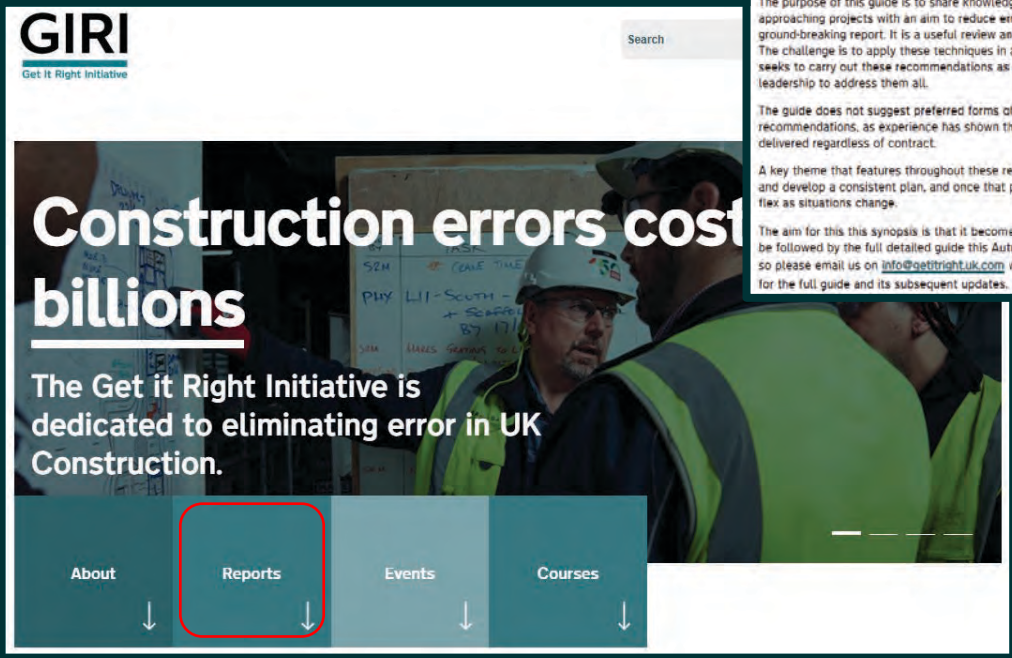
Get It Right Initiative

Design Working Group

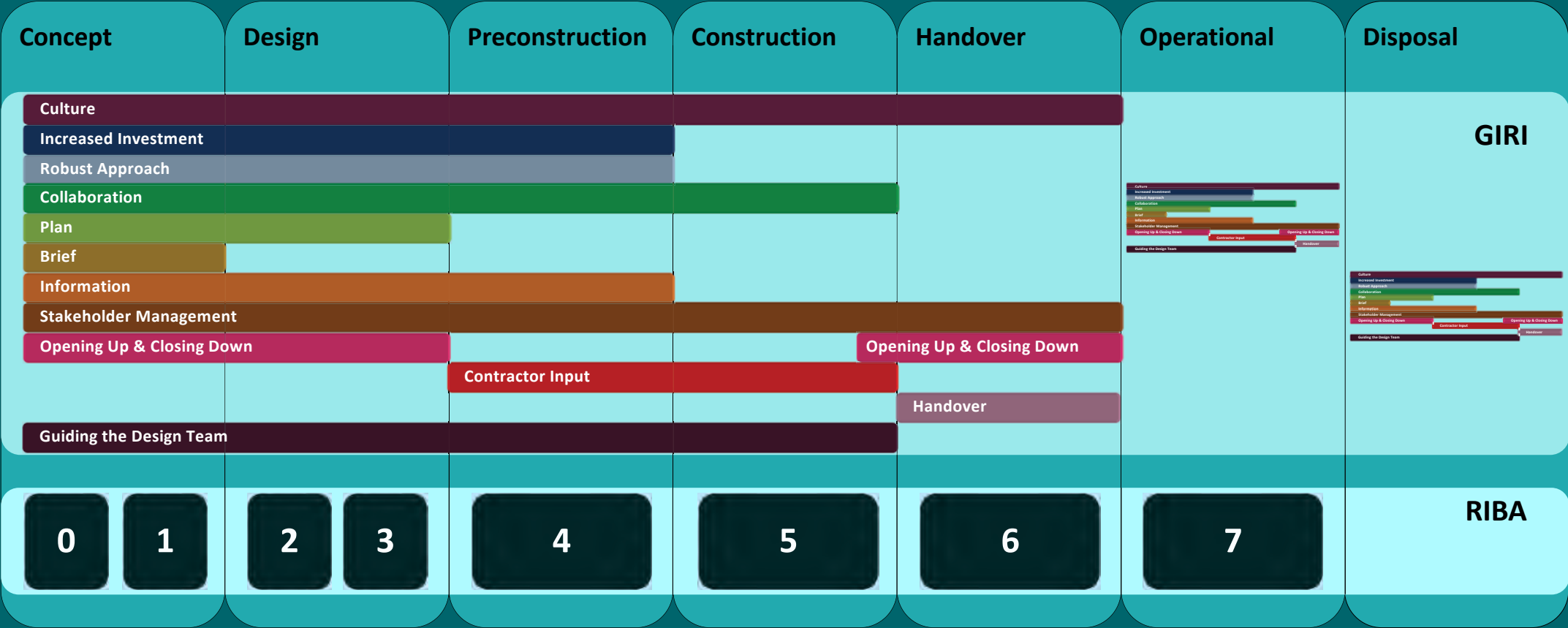Working Group meeting – 4th September

Design Guide to be updated:

  - Recommendations 10 & 12

  - References to Design Management to be included

  - Interactive tool to be created
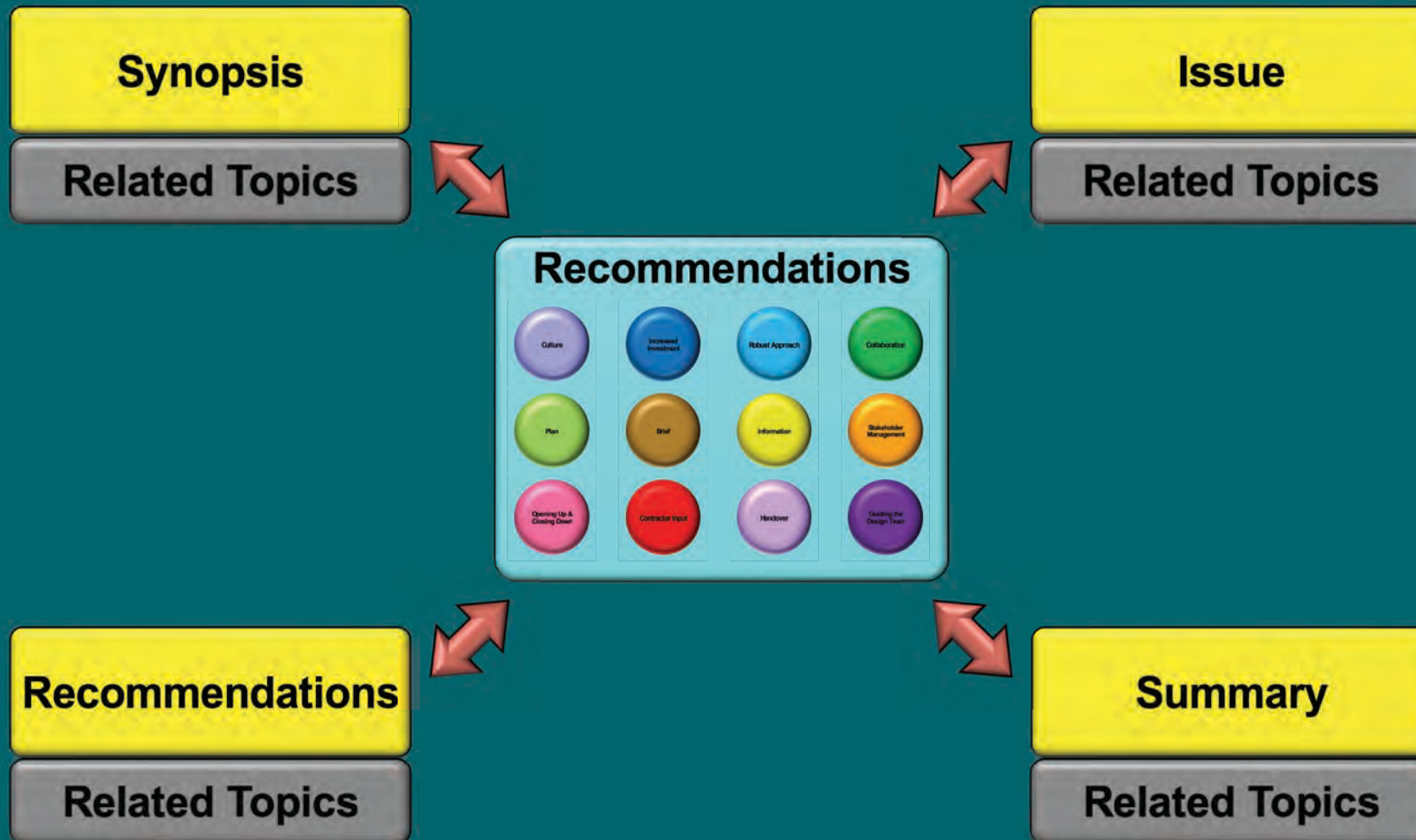
GIRI Website – Information Flow

GIRI Website – Proposed Information Flow

Interactive Tool – Schematic

Interactive Tool – 'Culture'

Synopsis

Issue

Every project needs a clearly defined intent, a consistent focus on outcomes and the project team to work seamlessly together and adopt the process of back-briefing

Recommendations

Summary

Related Topics

Issue

Getting the team culture right

It is recognised that the delivery of projects is enhanced, and the number of errors reduced, when there is the right 'culture'. So, what is the right culture and how is it to be achieved? Contracts determine the nature of projects and certain forms of contract are designed to "enhance" the right culture but in the majority of cases projects are procured using "non-collaborative" forms of contract. The Industry needs to develop a collaborative culture of working, regardless of the form of contract.

Recommendations

Summary

Culture – Issue

Synopsis

Related Topics

Everyone knows that the most successful construction projects – in commercial, environmental and social terms – are those where all involved work as a team to achieve common goals, in an open and transparent way: projects where there is a real culture of collaborative working. The trouble is that most projects do not work like that.

Establishing a collaborative culture is the first challenge. There is no simple recipe for this, though one essential ingredient is clear leadership from the top, with a Client demonstrably committed to collaborative working. Choosing people and organisations with similar commitment can also help, as can choice of processes and systems that support the culture.

Sustaining a supportive team ethos is also part of the challenge. Relationships are formed initially with people, and people will work together and start to trust each other if they are in the right environment. The trouble is that, over time, people move on and so personal arrangements are constantly changing. This reinforces the point that for every project, large or small, the Client needs to be an active part of the team and to contribute to the process - including the role of "leader".

Recommendations

Summary

Culture – Recommendations

Synopsis

Issue

Clearly defined intent
A clear intent which outlines what the project wants to achieve and why. This binds the entire project team together and then forms the benchmark for all subsequent decision making. It is normally expressed in terms of effects and desired outcomes. The intent should be in a language that all members of the project team (right down to laborers on site) will understand.

Renewed focus on outcomes
A change in mind-set so that the "outcome" is all that matters. For example even if the calculations are faultless, and the drawings are beautiful, they are a failure unless the element is actually built and handed over to the Client – and works! This approach will create the link to the real world of construction and delivery, and break down some of the organisational and contractual barriers identified.

Adoption of the process of back-briefing
Improving communication and mutual understanding by making it normal for project members to conduct back-briefing at an agreed time or stage. The person or people receiving information give a synopsis of the information they have just received. The person originally giving the information can then determine whether the message was received properly. If the repeated version is not the same as the original intent, the information or intent should be clarified.

Related Topics

Summary

Culture – Summary

Synopsis

Issue

Creating a collaborative culture is central to 'getting the team culture right' and can only be established if there is clear leadership from the top. Appointing organisations with similar commitments is also a pivotal step so that everybody involved in the project believes that they actually own the project. Once this basis is formed, each project should define the following:

- **A clearly defined intent – what does the project want to achieve and why?**

- **Renewed focus on outcomes – the outcome is all that matters**

- **Adoption of the process of back-briefing – all project team members should carry out back-briefing at an appropriate time**

Recommendations

Related Topics

The Get It Right Initiative

Harnessing Technology to Eliminate Error

Cliff Smith

GIRI Board Director

GIRI

Get It Right Initiative

Harnessing Technology to Eliminate Error

Research Update

- At the Annual Review I confirmed our intent to gather together a consolidated list of the key barriers to wider adoption such that we can then look into potential solutions and provide the industry with advice and guidance to overcome these.

- We commissioned Dr Mills at UCL (Bartlett School) to carry out a literature review into reported evidence of the occurrence of these barriers

- This review was carried during August and September and the Final Report was issued on 11th September 2019. The Report is now available on the GIRI website.

- The report has helped us to be clear there are barriers and these potentially affect error reduction. We now need to link these to the earlier qualitative research carried out by GIRI regarding the root causes of error

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Harnessing Technology to Eliminate Error

Technology Group 24th September

- The Technology Group held a meeting on 24th September at which Dr Mills presented his report and was subject to questions from the assembled Members of the Group. The meeting was very constructive.

- The next step is to aquire data in order to quantify the impact of technology and which technologies best address the top root causes.

- Our plan is to achieved this by preparing and issuing a questionnaire to Members seeking unattributable information about specific projects which have gone well and less well with differing levels of technological implementation

GIRI

Harnessing Technology to Eliminate Error

Further Research

- The preparation of the questionnaire and its launch to Members is to be reviewed and discussed at our next Technology Group Meeting which is planned for 10.30 on 7th November 2019

- This meeting will also look at the available funding for this study. Our initial thinking is to continue in partnership with UCL (Bartlett School) utilising their resource of research Students who have an interest in this subject

- The completed Research is intended to provide quantifiable evidence of positive links between technology implementation and error reduction leading to increased productivity.

- Having established these links we will then move forward in seeking funding to identify proposals to overcome the currently identified barriers to these demonstrably positive links.

GIRI

Harnessing Technology to Eliminate Error

Further Research

- Having established these links we will then move forward in seeking funding to identify proposals to overcome the currently identified barriers to these demonstrably positive links.

- Attendance at the Technology Group remains open to all Members and please contact me in the first instance if you wish to get involved.

- **Contact information**
    info@getitright.uk.com
    cliff.smith@formright.co.uk

GIRI

Intelligent Data Trusts for the Construction Transformation (IDTCT)

The Challenge

Organisations are hampered by their ability to collect, share, anonymise and compare organisational and project quality, defects and failure data

There is a need to democratising project delivery data through advancing analytics, while also controlling the securing data sharing

GIRI could help to establish intelligent data use case for "improve construction productivity and quality by eliminating error and preventing failure" (one of five spokes)

We would hope to collaboratively break the virtuous circle. To transform the industry from a low margin, low innovation, high error/quality failure, high claim and high health and safety incidence sector to one that is highly planned, more predictable and data analytics driven

This activity will build off existing interest groups and establish stronger partnerships to effect industry wide change and new data-driven business models

GIRI
Get It Right Initiative

Wrap Up and Discussion

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

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