



~~CATCH~~

# WEBINAR ETIQUETTE

I'll potentially freeze up right in the middle of a gurn



Webcams Off 

- I'd love to see your faces but it's about Bandwidth



We'll pause or take as appropriate

 Microphones Muted

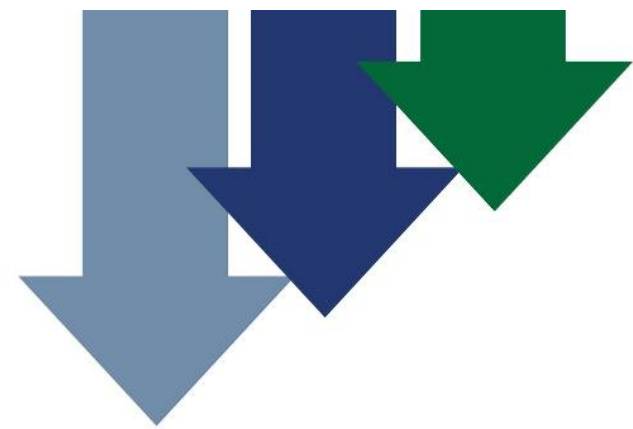
Safe from family incursion 

Post questions into chat 

Also the hand-up feature 

please do ask questions...

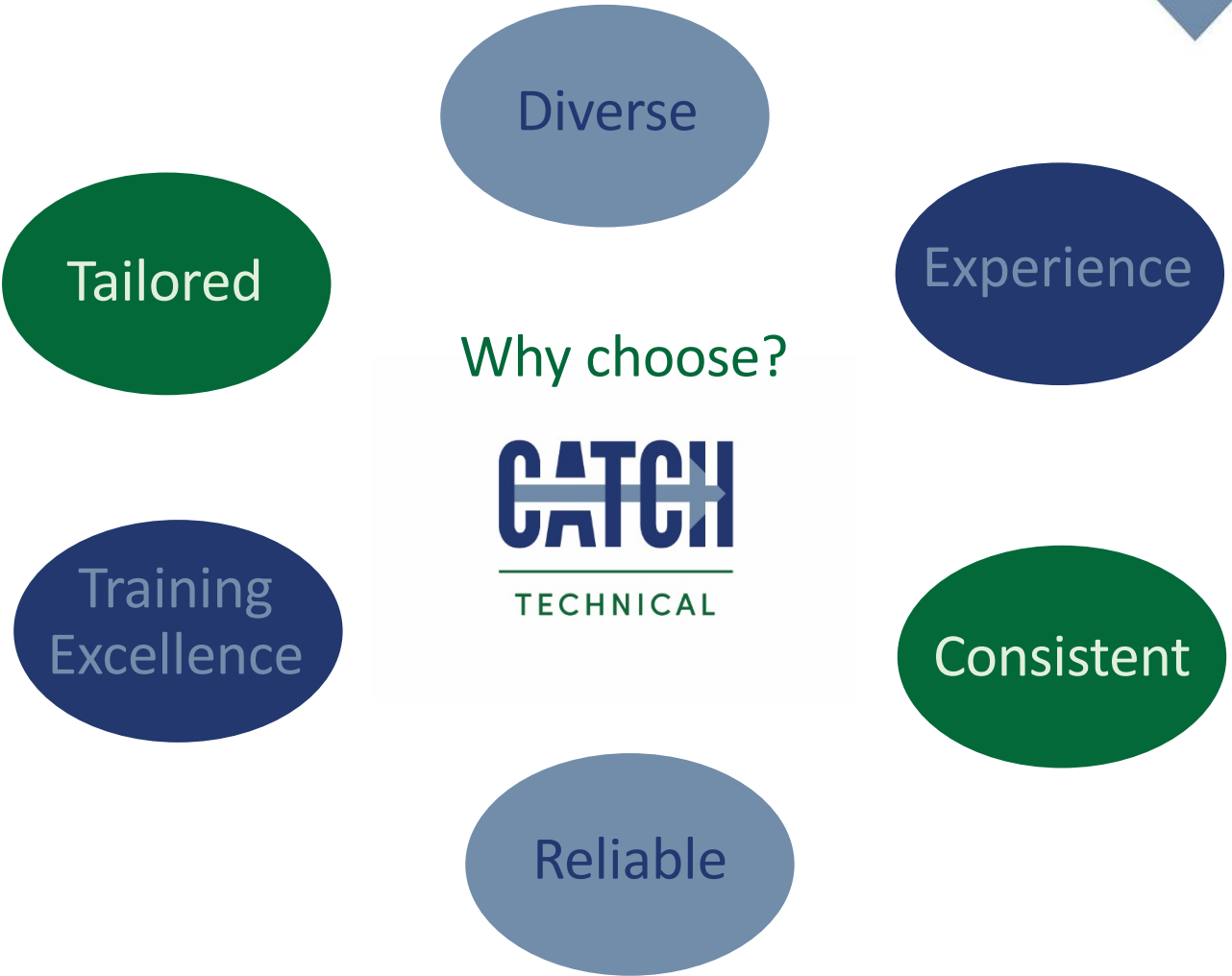
# CATCH Technical



- Specialists
- Work as Individuals or
- As part of a team

# CATCH Technical

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Exercise

Outside Work

Craft

# RACHAEL COWIN

Delivering  
20+ yrs Projects  
in LIVE  
COMAH Chemicals  
Manufacturing  
Environment



Likes to bake & bring cake

Wears bright colours!

ENGINEER  
(FIMechE)

## PROJECT MANAGEMENT

e.g. reviewing options preparing packages for tender



assignment based  
interim  
**FLEXIBLE**

client eyes + ears  
on turnkey jobs



## BRINGING VISUAL WORKING INTO WHAT I DO

## PROJECT TRAINING

- Maximising Stakeholder Contribution
- Practical Project Management
- General Awareness
- Bespoke



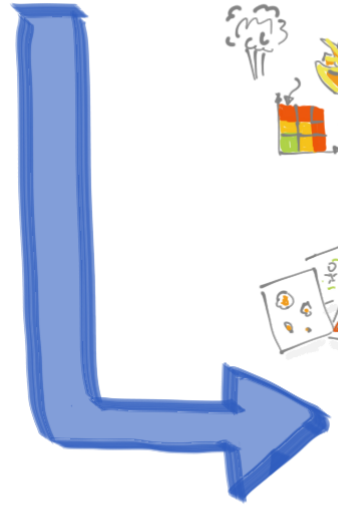
## MANAGING IMPLICATIONS OF CHANGE

## CREATING PROJECT-FRIENDLY ENVIRONMENTS

## PROJECT STUDIES & SYSTEMS

- e.g.
- Kickoff
  - Risk Reviews, health checks
  - Scoping Sessions
  - End of Project - Learning
  - Operational Readiness
  - Procedure Creation

WHY?



## PROCESS SAFETY

- INTEGRATION INTO PROJECTS
- AWARENESS/OVERVIEW TRAINING
- MANAGEMENT OF CHANGE
  - AUDIT
  - TRAINING
  - ADVICE

Explain concepts  
Reference summary  
Better info. retention  
Training tool  
**FUN**



## HAZOP LEADERSHIP



email me - rachael@2edconsulting.co.uk



# FUTURE STEPS

Thoughts on how to apply, when we are all resource constrained



# PITFALLS & PROBLEMS

Potential issues to consider (guess how I know...)

# WHY?

Reflections on the various benefits to both parties of stakeholder/project collaboration

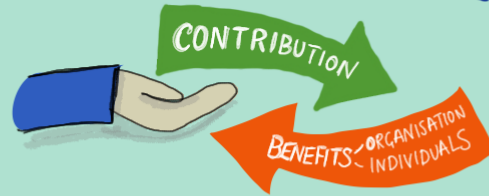


# WHO?

The various groups that could benefit and contribute



# Project Stakeholders - MAXIMISING



# EXAMPLES & TOOLS

Some practical examples for different types of project



# WHERE?

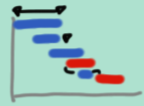
Exploring the timing and nature of different involvements





# WHY?

## Project



Scope = Best meet customer needs  
Real problems & opportunities

H&S - Work as envisaged  
vs work as performed ↻

Share workload

Smooth handover

## Stakeholder Group (Individuals & future org)

Scope - their needs met  
- Influence of scope

↳ long term impact  
eg. cost, reliability.  
H&S

Earlier, greater technical experience

New skills & knowledge

Project skills to transfer on the job

Ongoing project contacts

Benefits Realisation

Life of Project  $\left\{ \begin{array}{l} \text{scope} \\ \text{const'n, commission} \\ \text{\& train} \end{array} \right.$

Project Understanding

Loyalty, trust, acceptance

Future support staff

Obvious

More  
Subtle

Health, Safety & Env.

etc.

Laboratories

IT HR

Sponsor / Senior Stakeholders

- Best fit depending on primary project purpose

Purchasing

- Also awareness for senior functional stakeholders  
eg HR, Tech, finance  
Purchasing

Logistics

# WHO?



Raw mats  
Production planning

Maintenance

Operations (End-Users)

DO/Records

E,I,M Planning Stores

Multiple levels



# WHEN & WHERE?



Concept

Options

Definition

Development

Sanction

Delivery

Commission

Review

WHY?

Opportunities  
Constraints  
Risks

Sites  
Technology  
Processes  
HS1

Flowsheets  
Prelim MPI Datasheets  
HAZID Layouts Plans

P&ID's  
Detail,  
HAZOP,  
Quotes

Cost-Benefit?  
Risks acceptable?  
Implications

for construction  
Take offs

As-built checks  
Testing  
HS 4&5

HS 6  
Project Review  
Improvements



DIRECTION & CLARITY

I.D. ENVELOPE

REQUIREMENTS / ISSUES  
OPPORTUNITIES RISKS

IS IT WORTH IT?  
RESIST SUNK COST  
BIAS

ENCOURAGE  
& SUPPORT  
OWNERSHIP

ORGANISATIONAL  
LEARNING

THROUGHOUT  
DECISION MAKING, GO/NO GO

Senior Team  
(Inc. Sponsor)

BENEFITS  
REALISATION

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Operating Implications  
of options  
Cascades to  
Cost - Capital & ongoing  
S, H, E  
Risks

Optimise design  
for ease of operations  
Human factors

Safe handover to/from  
installation  
Prepare for ownership - training  
Procedures  
Built as expected?  
Realistic Commissioning plan  
Commissioning Team

Take  
ownership

Share  
Experiences

Preparing to be  
'Owners'  
competence

Operations

Bringing  
Day-to-Day  
Week-to-Week

Reality

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↑ ↑  
Impact of options  
on equipment

↓  
Cost, Integrity  
Spares, competence  
Inspection

Build-in ease of maintenance  
Human factors, optimise design  
FMEA, known failure mechanisms  
RBI future asset care  
Procurement assistance

↑  
plan for  
role in handover

↑  
set up routines  
Tools  
Training

↑  
pre-start  
inspections

↑  
Experience  
Records

Equipment Knowledge

Maintenance

Life-cycle costs  
Preparing to manage  
Asset Integrity  
Competence

# WHEN & WHERE?



Concept

Options

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WHY?

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Constraints  
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Sites  
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Flowsheets  
Prelim  
MPI  
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↑  
SUPPLY CHAIN  
A BIG Impact

S, H, E  
Inherent Safety  
Implication of  
Options

Infrastructure  
Headline issues

↑  
SHE  
Standards, advice  
Permitting

IT New equip?  
Cyber security?

DO  
What's coming?  
Prepare

↑  
Procurement  
involve them  
early

HR recruit  
Training, competence  
enabling involvement  
Organisational Learning

↑ Supply chain during installation?  
← involve them early

Laboratories  
New test methods?  
New equipment?  
Site testing during installation?

# TOOLS & EXAMPLES

## Modified Process

Make most  
of Project  
Reviews



lean tools



3-D Modelling



Review Current  
information



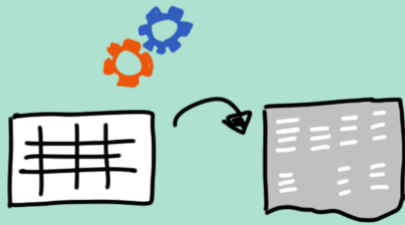
Unpick as-is

HAZOP 6?  
PHR flush out S, M, E



# TOOLS & EXAMPLES

## New Equipment



FMEA,  
Lean Routines



Existing  
Records/Routines

Film Existing  
Operations



Reference  
Visits



Simulations,  
Day-in-the-life



Supplier  
Visits



Training



# TOOLS & EXAMPLES

## Major Investments



Inner Team

Commissioning Team



Formal Recruitment

Management team reviews, action plan



Early process reviews



Formal Methods  
eg. work structuring  
Layout reviews  
Value Analysis

Procurement Review



# NEW WAYS OF WORKING

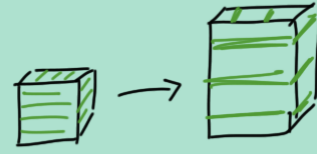
E.G. RE-INSTRUMENTATION  
AUTOMATION



EXPLAIN THE WHY!

NOT JUST ABOUT SHINEY THINGS...

PROTOTYPING / SIMULATION MVP'S



RECOGNISE IT'S ITERATIVE



AS PER AGILE FOR SOFTWARE

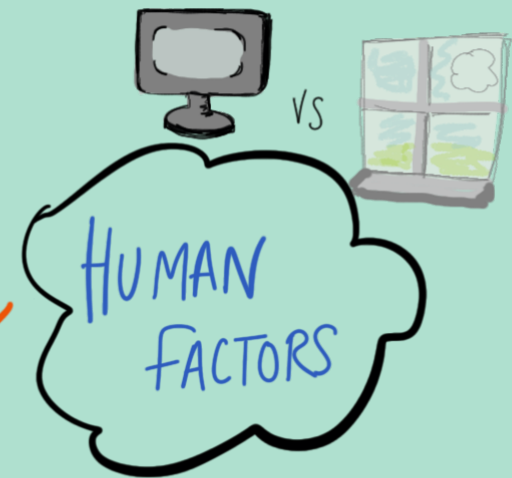
DON'T OVERSELL  
DON'T TAKE SETBACKS TO HEART

IT TAKES TIME TO BUILD TRUST IN TECH





# TOOLS & EXAMPLES



HUMAN FACTORS

Health, Safety Environment

Training & Instructions

Hazard Studies



Emergency Response



Critical Equipment



LOPA

Vessels, pipework



# Pitfalls



TIMING



PREPARATION/READINESS



FAIRNESS



SUPPORT



TIME & SPACE (BUT NOT TOO MUCH)



PAY & RATIONS



EXPEDIENCY



AFTERWARDS?

# THE REALITY

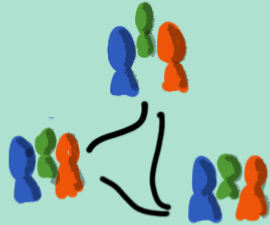
TIME TAKEN



GIVE & TAKE



MULTIPLE LEVELS & GROUPS



(MIS)TRUST



SHARED EXPERIENCE  
ONGOING EFFORT

SCOPE

— CREEP  
VS

OPPORTUNITY



# GREAT!

BUT EVERYONE'S VERY BUSY.....

- Start with SHE - make it count



- Tie-in with other drivers  
e.g. Lean



- Make the most of project reviews  
Give yourselves time  
Preparation & debrief  
Continuity

Consider neutral facilitation  
- Process & interactions not outcome

Document in an easy-to-share format

WHY?

- Take a **MACRO** view  
e.g. Critical/Novel equipment  
"Chewy" installation/commissioning  
Politically charged  
Delivered externally

Can you proceduralise  
identifying these?



Rachael Cowin CEng FIMechE



20 YEARS DELIVERING PROJECTS & ENGINEERING IN A COMAH MANUFACTURING ENVIRONMENT

DIRECT WORK TRAINING SYSTEMS

study facilitation inc. HAZOP

DEVELOPING ORGANISATIONAL & INDIVIDUAL CAPABILITY

using visual aids to aid thinking and sharing ideas info.

working as a TOOL



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# How Can ~~CATCH~~ Technical Services HELP YOU?

- TECHNICAL EXPERTISE • ADVICE •
- TRAINING • SYSTEMS & PROCEDURES •
- STUDIES & FACILITATION •

HAZID (eg HAZOP) • LOPA • ASSET MANAGEMENT • RBI • FMEA • RCA  
HUMAN FACTORS • EMERGENCY RESPONSE • LEAN  
PROJECT SCOPE & DELIVERY . . . . and more . . .

see [catchuk.org](http://catchuk.org)  
[jill.mooney@catchuk.org](mailto:jill.mooney@catchuk.org)