



# PROJECT COLLABORATION TOOLKIT (PCT)

PETROINEOS GRANGEMOUTH REFINERY -  
ASSET RELIABILITY PROGRAMME – DATA  
AND DOCUMENTATION PROJECT MANAGEMENT

## PROJECT HAYSTACK CASE STUDY



THE PETROINEOS GRANGEMOUTH REFINERY HAS BEEN OPERATING FOR MANY YEARS. THE TASK OF MAXIMISING UPTIME THROUGH IMPROVED RELIABILITY ON PLANT ASSETS OF A CONSIDERABLE AGE IS EXTREMELY CHALLENGING. THIS CASE STUDY HIGHLIGHTS THE COLLABORATIVE APPROACH TAKEN, BOTH INTERNALLY AND WITH EXTERNAL PROJECT PARTNERS, TO DELIVERING A KEY DATA AND DOCUMENT MANAGEMENT PROJECT.....A PROJECT CRITICAL TO THE PROVISION OF ACCESS TO ACCURATE INFORMATION FOR THE MANAGEMENT OF EQUIPMENT PERFORMANCE AND RELIABILITY IMPROVEMENT.

**In the complex business of hydrocarbon refining, asset reliability is a key requirement for business competitiveness. In the drive toward continuous asset reliability improvement, many of the Petroineos functional stakeholders agreed that access to accurate engineering records, many of which had several versions of equipment drawings and documents, were posing a real impediment to progress. Project Haystack was subsequently sanctioned to address the situation.**

Although the need for Project Haystack was identified as important and agreed by a substantial number of internal Petroineos stakeholders at a Refinery Reliability 'town hall' event, it was realised that changes in working practices, recommended through Project Haystack, may be difficult and challenging to implement across the workforce. It was recognised that a collaborative strategy was necessary, with regular and effective project communication to the refinery population, to support the management of change.

The appointment of an experienced and flexible information management contractor was also identified as essential to project success and following a stringent tendering exercise, L & T Technology Services (India) were appointed. L & T Technology Services were able to demonstrate substantial prior experience of information management projects with other major oil and gas companies and a flexible approach to working with Petroineos.

The lessons learned from this project should be of interest to many organisations that are addressing the challenges of the digital era.



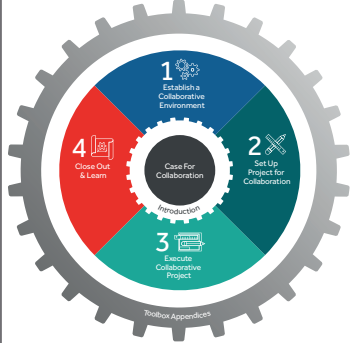
## PROJECT TENETS

The problem is  
"It's like trying to  
find a needle in a  
haystack"

There's not just  
one needle there  
are many others!

Our aim is to  
achieve one  
single version of  
the truth

### USING THE PCT CONTENTS SELECTIVELY TO ACHIEVE PROJECT DELIVERY SUCCESS

PCT PHASE 1	PCT PHASE 2	PCT PHASE 3	PCT PHASE 4
<p><b>PCT PHASE 1</b></p> <p><b>PCT 1.1</b> – Project Haystack Sponsor recognised as Collaboration Champion.</p> <p><b>PCT 1.2, 1.6</b> – Flexibility of potential IM contractors and ability to deliver collaboratively assessed during tendering.</p> <p><b>PCT 1.3</b> – Many stakeholder conferences and communication sessions staged with wider functional stakeholders. Functional Steering Group and Functional Collaboration Teams formed.</p> <p><b>PCT 1.5</b> – A Project Behavioural Charter was developed during Phase II and reviewed, modified and adapted with stakeholder input for Phase III (EXECUTE)</p>	<p><b>PCT 2.1, 2.7</b> – Functional Collaboration Team members selected for interpersonal, relationship skills as well as functional knowledge</p> <p><b>PCT 2.2</b> – A common set of objectives developed and regularly reviewed for stakeholder ownership and alignment</p> <p><b>PCT 2.3</b> – An environment conducive to full role contribution was created for the Functional Collaboration Team. FCT member responsibilities extended to cascade communication with their other functional stakeholders.</p> <p><b>PCT 2.4</b> – Project scope established and documented but areas of potential emergent scope (e.g. IM software workflows) identified for flexible management.</p>	<p><b>PCT 3.1</b> – Project Phase III schedule extended by mutual stakeholder agreement when reviewing Phase II outcomes due to other refinery workload issues and events.</p> <p><b>PCT 3.2</b> – Although a 'conventional' IM contract was deployed, the contract was managed sensitively in recognition of IM contractor aims.</p> <p><b>PCT 3.4</b> – All parties recognised the potential of Project Haystack to further improve an already good refinery safety performance as a result of enhanced data accuracy.</p>	<p><b>PCT 4.1</b> – Project Haystack lessons learned were captured progressively throughout all project phases. In particular, Phase III function experiences passed on to subsequent functions in the roll-out sequence</p> <p><b>PCT 4.4, 4.5</b> – Petroineos and partners committed to recording collaboration outcomes for future benefit.</p> 

### KEY CHALLENGES:

The key challenge to providing access to current accurate data and drawings was always recognised to be acceptance of central data and drawing management control in order to achieve "one single version of the truth". This required recognition that records could not continue to be kept in local storage locations and acceptance of new electronic workflows in IM software in order to obtain data access.

#### PHASE 1

Petroineos recognised from the start that the key to Project Haystack success would be the effective engagement and collaboration of many hundreds of primary functional (engineering, maintenance, reliability, operations) stakeholders and business support function stakeholders. Project Execution Plans and Project Communications Plans were established accordingly. A flexible and experienced Information Management contractor was also required and Indian company L & T Technology Services were selected following a stringent tendering process.



#### PHASE 2

Petroineos worked with L & T Technology during a preliminary project period (Phase I) when all available options and solutions to the Haystack problem were studied and assessed. The preferred approach and solution option was consequently identified and this was worked during the subsequent project Phase II to allow full identification of scope and to trial the software solution. Significant communication efforts were made by the project sponsor, the project management team and the functional steering group during Phase II to ensure awareness and engagement of the wider Petroineos internal stakeholder community and to manage any residual pockets of change resistance.

#### PHASE 3

During Haystack Phase III a Functional Collaboration Team was formed to provide inter-functional collaboration around data storage and management, workflow design etc. rather than total reliance on sequential function engagement and roll-out. This provided a better and consistent basis for statement of Petroineos user requirements to L & T Technology Services.

## OUTCOMES:

Through active collaboration Project Haystack was able to achieve:

- Improved access to accurate data and drawings
- Achievement of "one single version of the truth" thereby eliminating the risks and inefficiencies of inaccurate and multiple record versions
- Reduction in process safety risk through the improvement of asset data accuracy.
- Substantial savings in not only the time and cost but also the frustration of accessing the information needed by the many contributing stakeholders to drive refinery reliability.

## CONCLUSIONS:

Petroineos Project Haystack was sanctioned as a project which was critically important to enhancement of asset reliability through improved data accuracy and to the refinery business as a whole. The challenges that the project faced are typical of those faced by many UK manufacturing businesses that need to transfer essential data to a digital platform in order to maintain competitiveness. The project has worked with the ECITB Project Collaboration Toolkit in a selective way to ensure that the benefits of collaboration were achieved where necessary. Whilst many aspects of the project plan and the contracting strategy were conventional in nature, Project Haystack illustrates the benefits of the PCT and adoption of the tools that it contains.

Project Haystack is set to deliver a major contribution to asset reliability at the Grangemouth Refinery....a manufacturing site of national strategic importance.