HyTN Phase 2 – Technical Integrator

The proposed programme of development will focus on resolving technical challenges around catalysts, chemical reactors, materials, and separation technologies for:

- The Bunsen Reaction
- Decomposition of Hydroiodic Acid
- Decomposition of Sulphuric Acid
- Electrochemical Decomposition of Water and Sulphur Dioxide

We envisage that this opportunity will be split into the following Lots:

1.	Technical Integrator
2.	University(s) (Catalyst Development)
3.	University(s) (Reactor Design)
4.	University (Materials Development)
5.	University (physical properties measurement)
6.	University (Ancillary Technology)
7.	University (Ancillary Technology)
8.	Digital Twin
9.	Route to Market (Commercialisation)
10.	Route to Market (System Integration)
11.	University (Process Control and Monitoring)
12.	Advisory Support
13.	International Partner

We are initially seeking responses from organisations to support Lot-1 Technical Integrator role, as detailed below:

Lot	**Description**
Technical Integrator	• Collaborate with university partners in the consortium to identify novel and advanced catalysts that could improve the performance of the S-I or HyS process • Support the development of suitable chemical reactors to support the process • Advise on the development and implementation of suitable small-scale rigs for the testing of catalysts and unit processes • Lead development of separation processes that can be used for purifying unit process product streams as required

	• Lead the design of a lab-scale test rig for an integrated HyTN demonstrator including:
	  ○ Optioneering
	  ○ Concept Design
	  ○ Detailed Design
	  ○ Hazard Management
	• Deploy and operate flexible integrated rig, delivering experimental test plans as agreed with the consortium
	• Provide advisory and consultative support to wider programme:
	  ○ Systems integration with nuclear
	  ○ Development of a Digital Twin
	  ○ Future technology development
	  ○ Economic forecasting
	  ○ Technology Route to Market
	• Work with International Partner to understand and integrate LfE and deliver any collaborative testing tasks

For information - link to BEIS Invitation to Tender:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1099182/low-carbon-hydrogen-supply-2-stream-1-phase-2-guidance.pdf