



Industry-led, Elexon facilitated

Design Advisory Group #1

17 November 2021

In case of an emergency

An alarm will sound to alert you.
The alarm is tested for fifteen seconds every Wednesday at 9.20am.

Evacuating 350 Euston Road

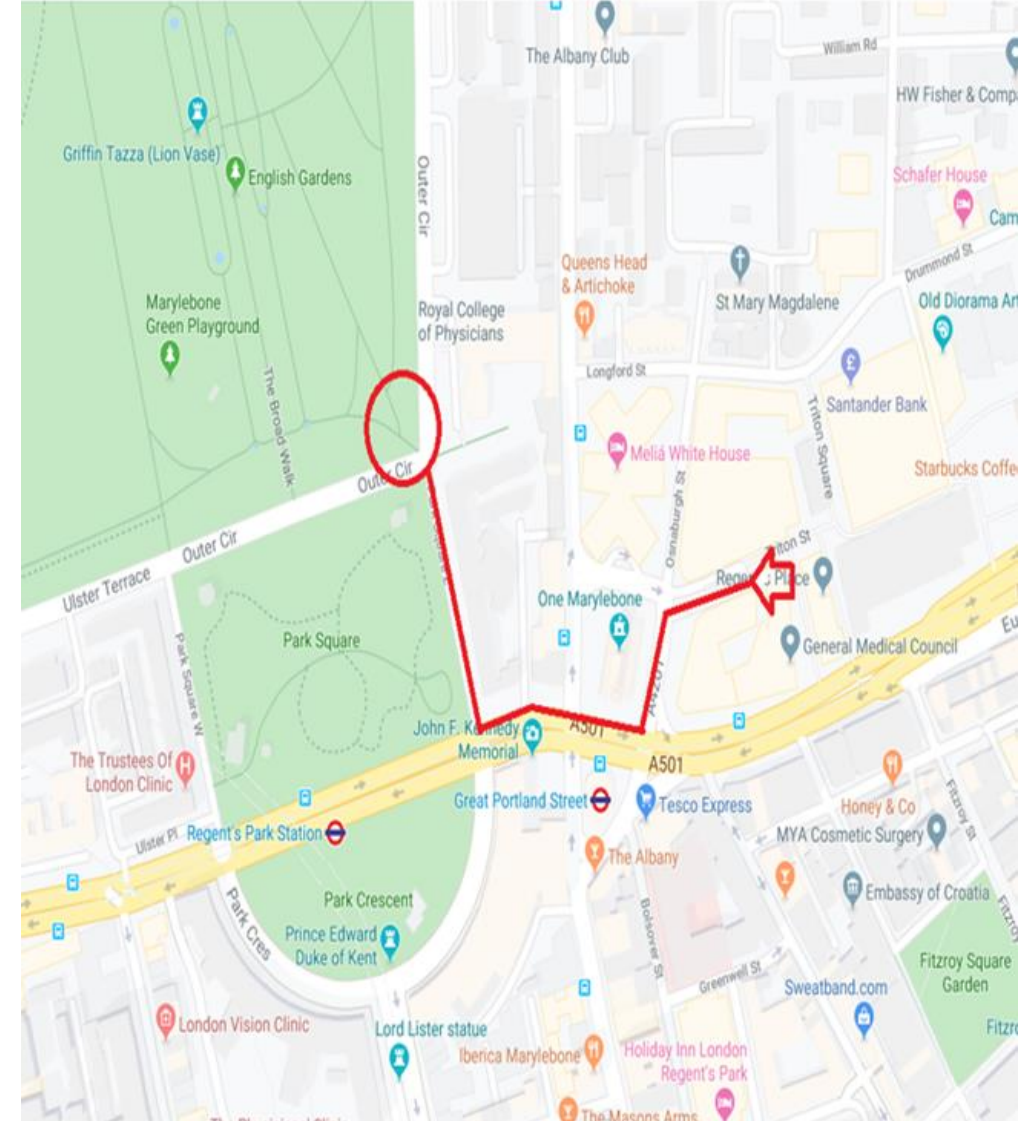
- If you discover a fire, operate one of the fire alarms next to the four emergency exits.
- Please do not tackle a fire yourself.
- If you heard the alarm, please leave the building immediately.
- Evacuate by the nearest signposted fire exit and walk to assembly point.
- Please remain with a member of Elexon staff and await further instruction from a fire warden.
- For visitors unable to use stairs, a fire warden will guide you to a refuge point and let the fire brigade know where you are.

When evacuating please remember

- Do not use the lifts.
- Do not re-enter the building until the all clear has been given by the fire warden or ground floor security.

Our team on reception is here to help you,

If you have any questions, please do ask them.



1. Welcome and Introductions

2. Programme Governance and Design objective

3. MHHS Design and DAG Terms of Reference

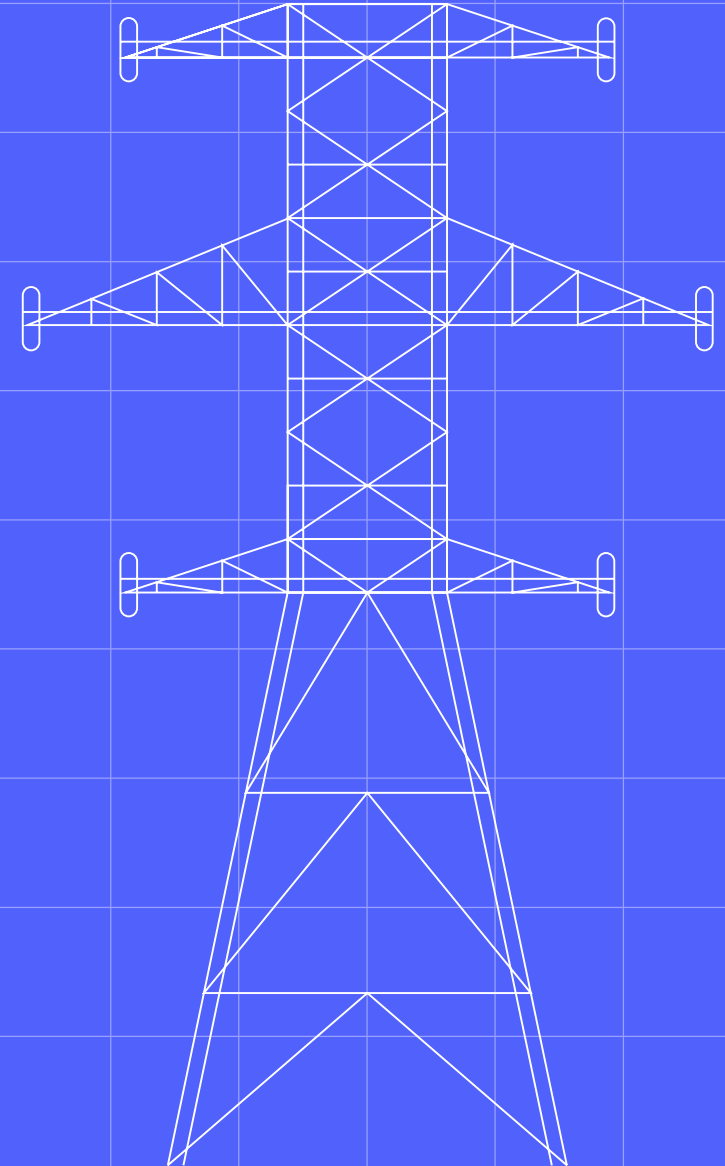
4. Level 4 Working Groups Terms of Reference

5. Level 4 Work update

6. Next Steps

**7. Appendices
DAG ToR
Level 4 groups' ToRs**

Welcome & Introductions



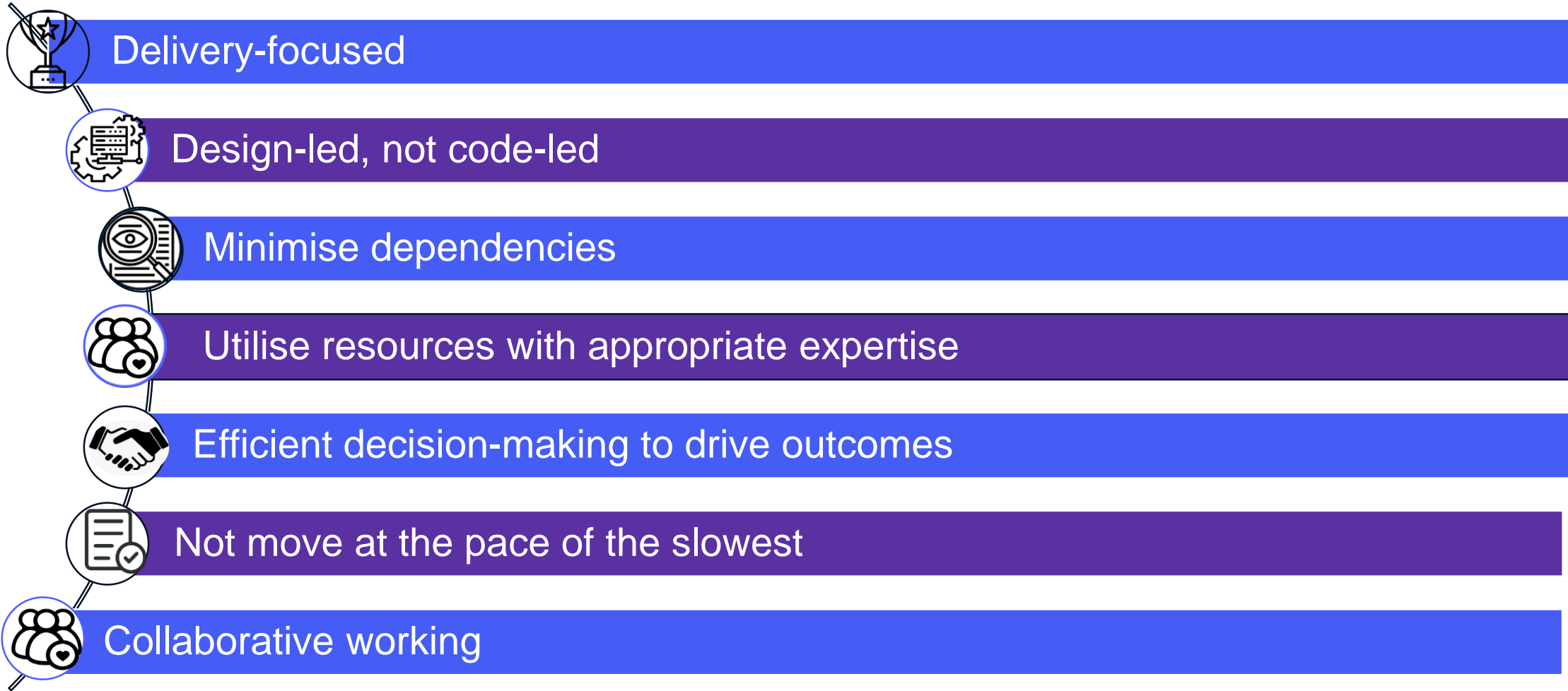
MHHS DAG membership

Constituent	Who	Organisation	Attend
Elxon Representative (BSC central systems)	Matt Hall	Elxon	Y
DCC Representative (smart meter central system)	Stuart Scott	DCC	Y
Large Supplier Representative	Craig Hanford	Energy UK	Y
Medium Supplier Representative	Gurpal Singh	Shell	Dial in
Small Supplier Representative	Jo Bradbury	ESG Global	Y
I&C Supplier Representative	Gareth Evans	Waterswye Associates	No, can't make 1 st meeting
Supplier Agent Representative (Independent)	Seth Chapman	Callisto	Dial in
Supplier Agent Representative	Robert Langdon	SMS Plc	Dial in
DNO Representative	Gemma Slaney	Western Power Distribution	Dial in - Jacqui Barton
iDNO Representative	Donna Townsend	Energy Assets Group Limited	Y
National Grid ESO	Keren Kelly	National Grid ESO	Y
Consumer Representative	Ed Rees	Citizens Advice	Y
Ofgem	Anna Stacey Danielle Walton	Ofgem project sponsor	Dial in
MHHS Programme	Justin Andrews Ian Smith Claire Silk Simon Chidwick	MHHS Design Team	Y

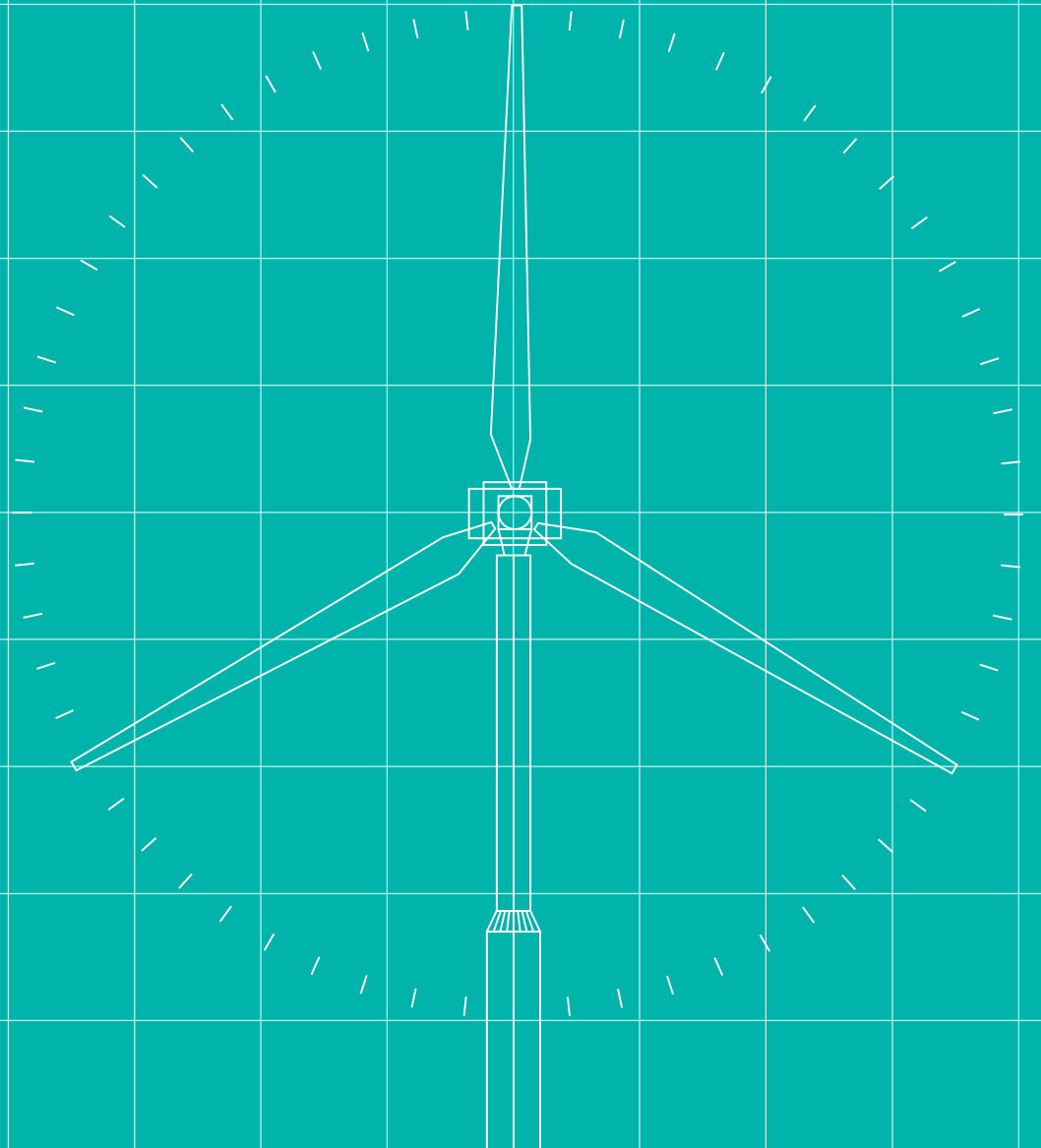
MHHS Programme Objective

To develop and then implement an enduring process for MHHS that delivers benefits for consumers by maximising the opportunities provided by smart metering in enabling an intelligent, flexible energy system by October 2025





Programme Governance and Design Objective

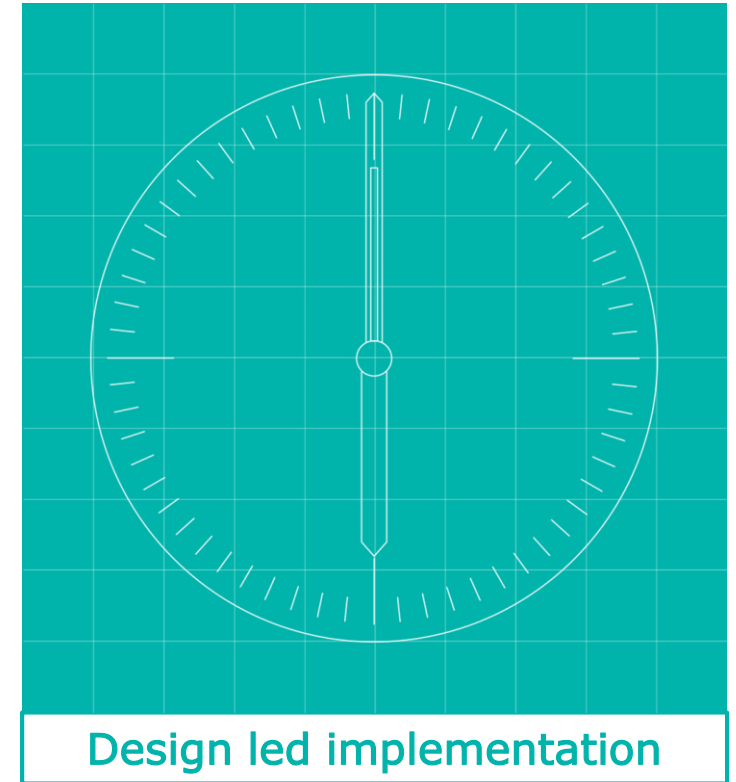


MHHS Design Objective for DAG

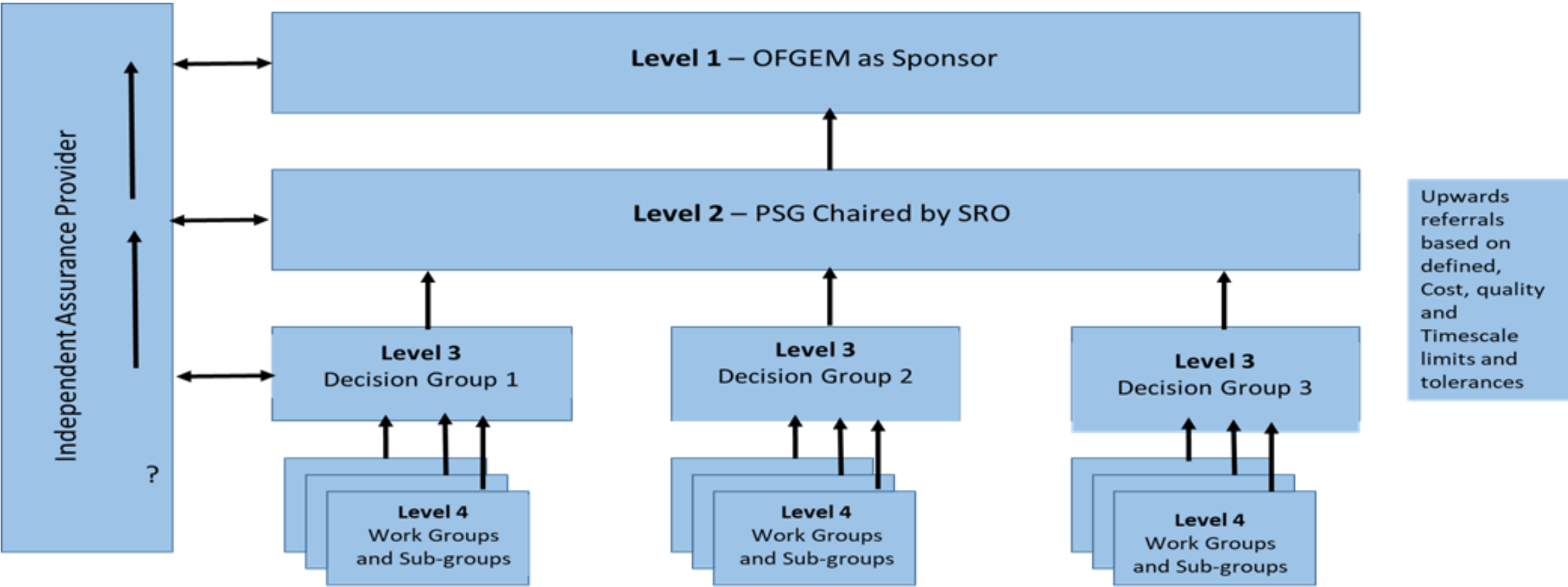
responsible for the MHHS E2E business processes, system and data architecture



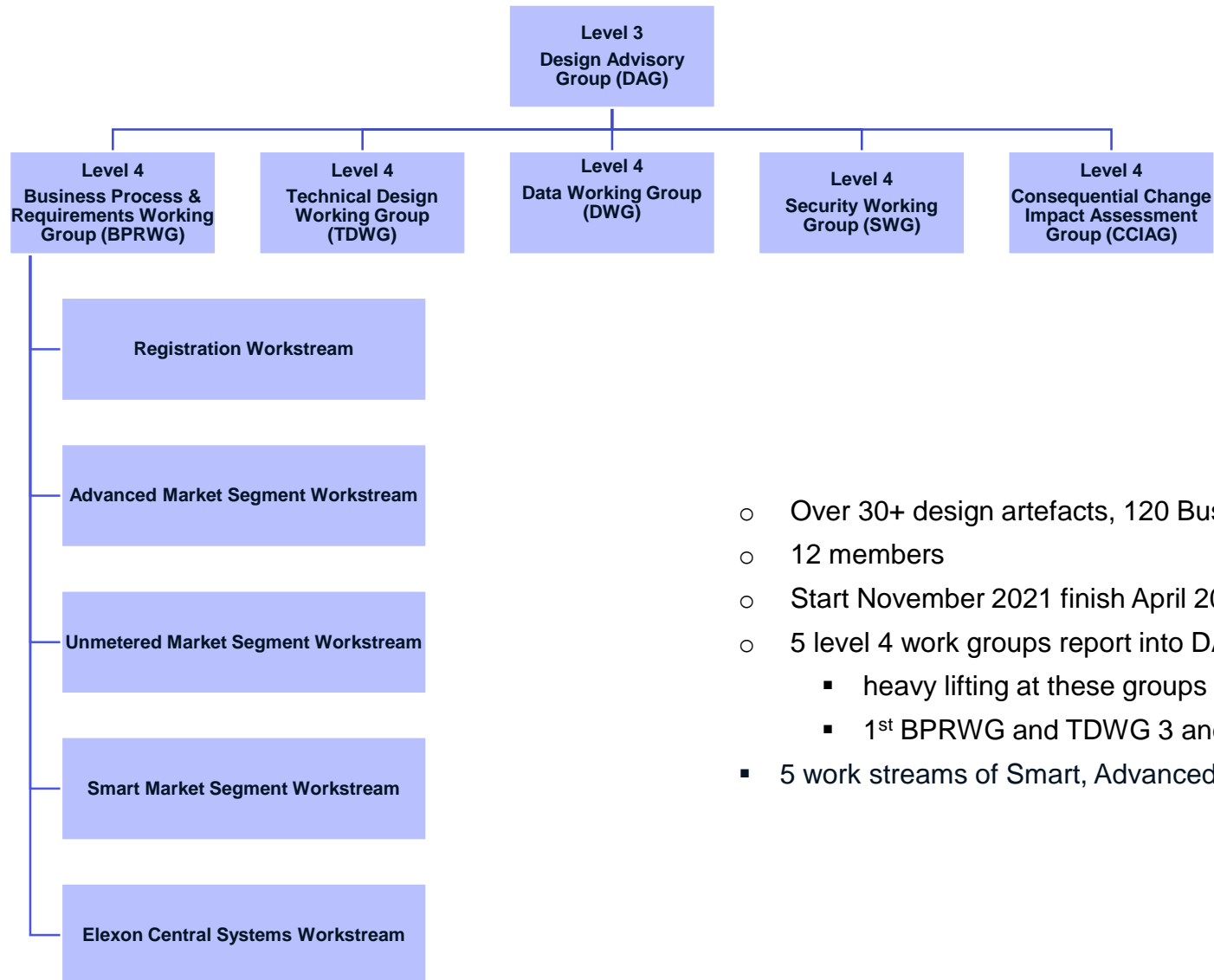
enables all programme participants to design, build and test their individual system and business changes



Governance Framework



MHHS Programme Design Delivery- Governance Structure- DAG and Level 4 Working Groups



- Over 30+ design artefacts, 120 Business processes
- 12 members
- Start November 2021 finish April 2022 (5.5 months)
- 5 level 4 work groups report into DAG:
 - heavy lifting at these groups on design
 - 1st BPRWG and TDWG 3 and 4th November
- 5 work streams of Smart, Advanced, UMS, Registrations and Elexon Central systems

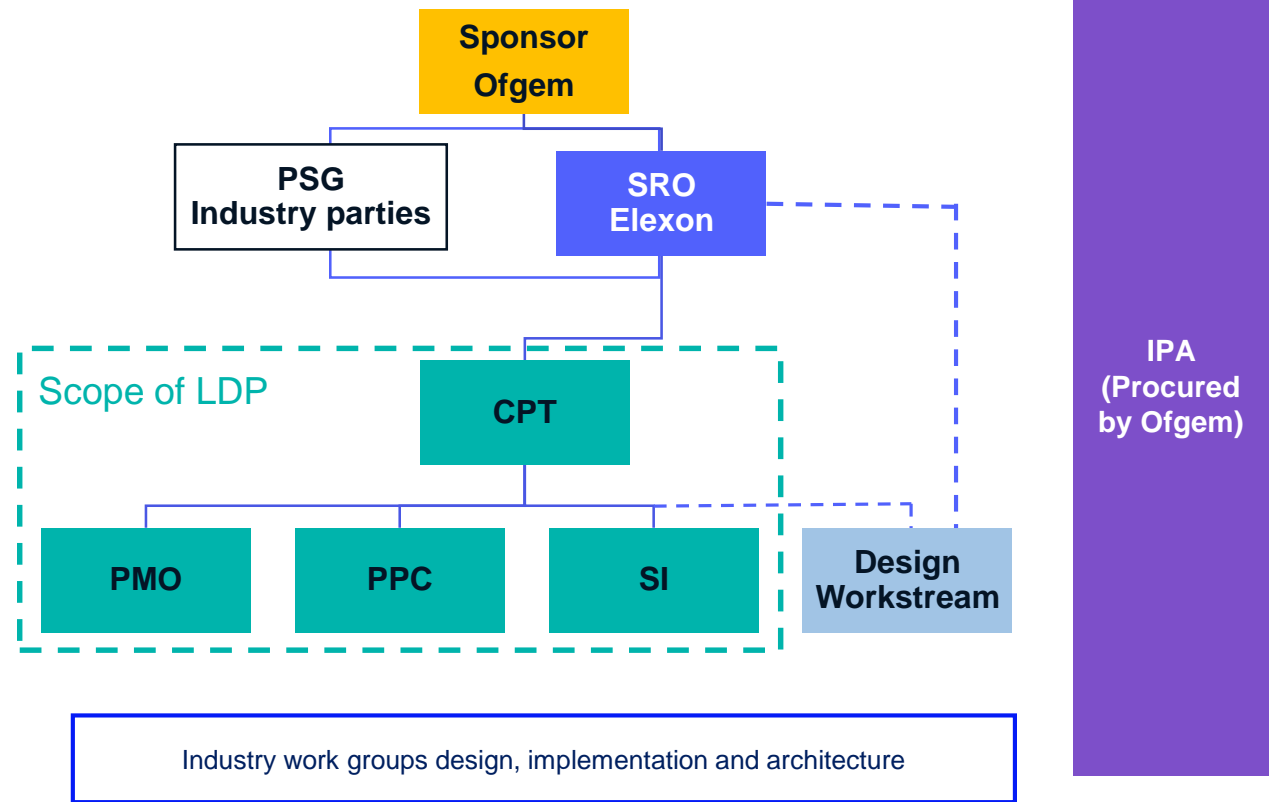
Programme Structure Definition

Lead Delivery Partner (LDP) required to deliver four key service roles:

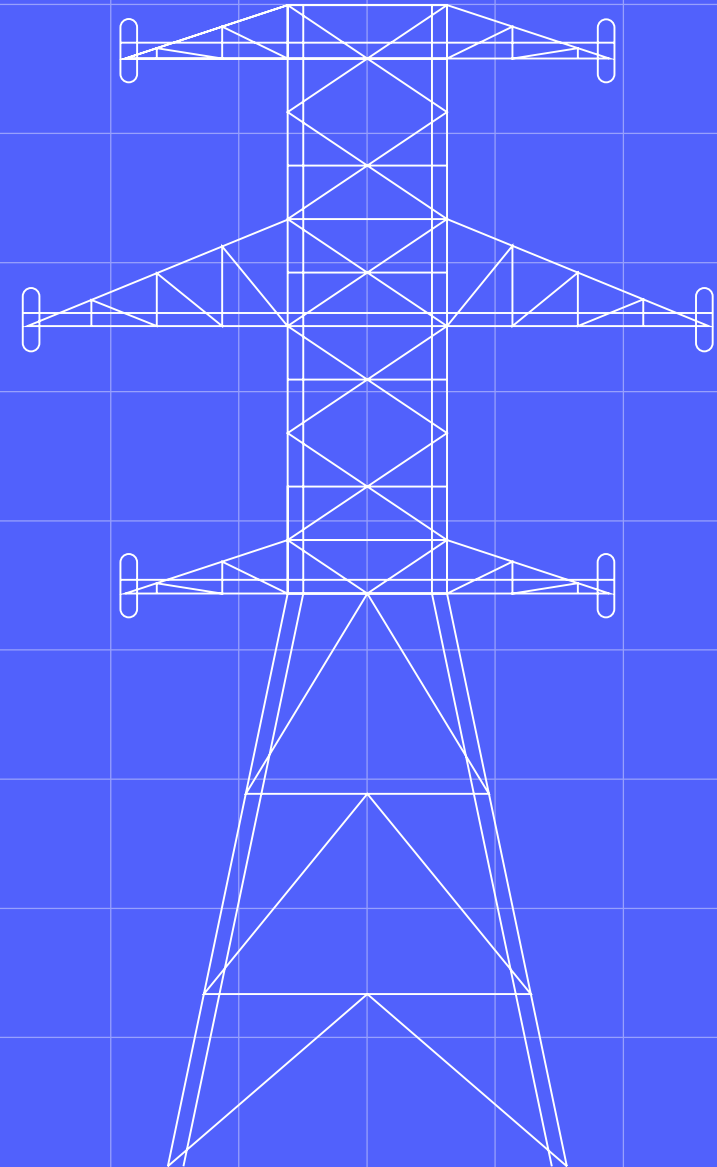
- I. Central Programme Team (CPT);
- II. Programme Management Office (PMO);
- III. Programme Party Coordinator (PPC); and
- IV. Systems Integrator (SI)

Independent Programme Assurance (IPA)

Providing independent oversight appointed by Ofgem



MHHS Design, DAG Terms of Reference

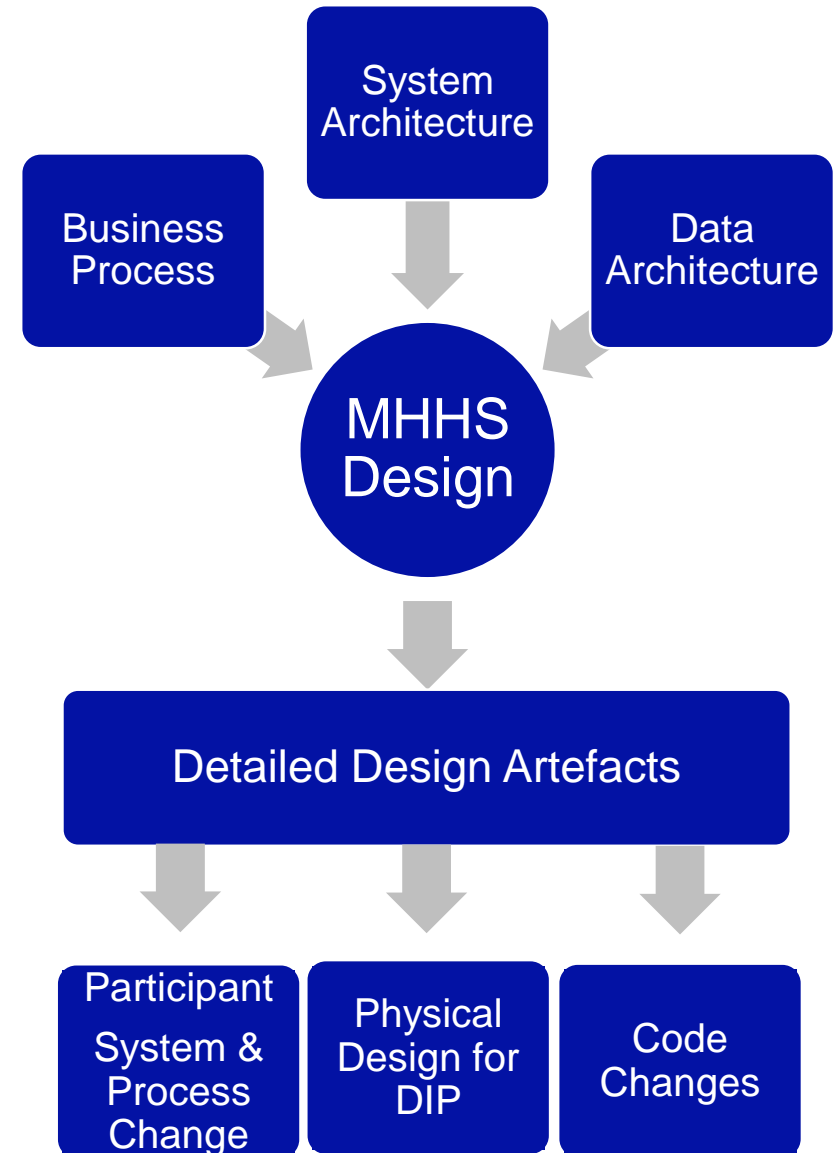


MHHS Programme Design Delivery - Purpose

The purpose of the MHHS Design is to develop a complete set of design artefacts that:

- Provide clarity around the business processes, system, and data architecture to deliver a detailed system design that enables all market participants to design, build and test their individual system and business changes.
- Define requirements and connection patterns to enable procurement and subsequent detailed physical design for the Data Integration Platform.

The approach will be a design-led exercise rather than code-led due to the breadth of change across industry parties and challenging timescales. As such the design will feed into the code changes.



MHHS Programme Design Delivery - Background

Prior to the mobilisation stage of the MHHS Programme, an initial set of working documents were created by the existing industry working groups.

Design Working Group



DWG (2017 - 2018) designed the MHHS Target Operating Model (TOM) and the high-level transition approach from the current Settlement arrangements.

Code Change & Development Group



CCDG (2019 - 2021) further developed DWG's TOM design and transition approach and identified the changes needed to Industry Codes and subsidiary documents to enable the TOM.

Architecture Working Group



AWG (2019 - 2021) developed the reference architecture that will set the framework for suitable data integration that is appropriate to the new MHHS services.

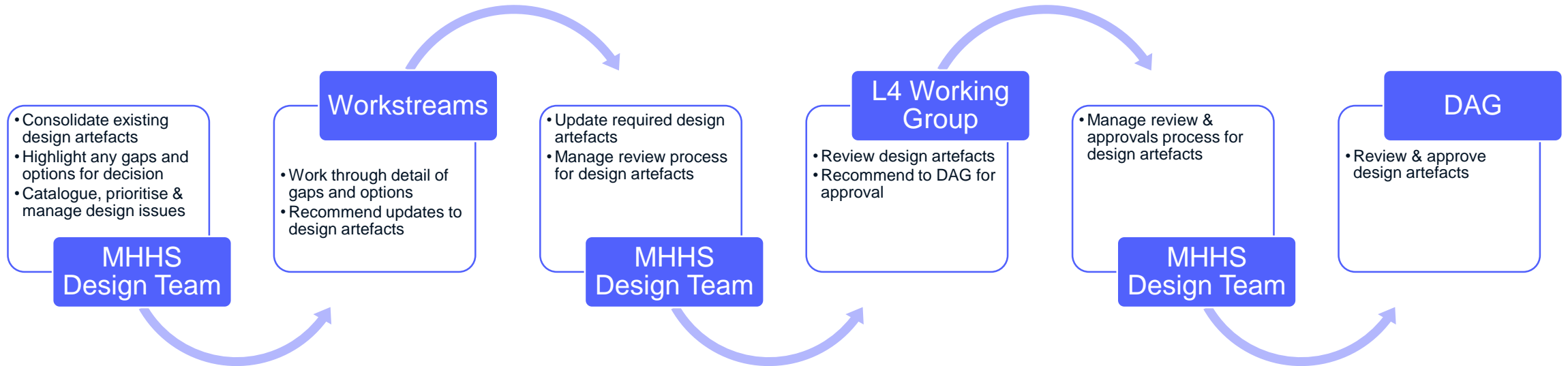
It is acknowledged that, whilst an initial high level design was agreed, the existing design material does not comprise an integrated cross referenced set of design artefacts that are fit for purpose to enable industry parties to commence their system and business process design.

MHHS Programme Design Delivery- Target Design Artefacts

Logical Design Phase	Physical Design Phase	Delivery Phase	Other
Functional Requirements		Participant Guides	Issues Log
Non-Functional Requirements		Design and Build Plan	Assumptions and Decisions Log
Business Process Models	Functional Specification	Testing Plan	Code Change/Modification Proposals
Business Process Descriptions	Operational Choreography	Implementation Plan	BSC Procedures
Logical Interface Specification	E2E Solution Architecture	Design implementation	Service Descriptions
Volume Model	Physical Interface Specification		
Interface List	DIP Technical Design		
Data Item Catalogue	Security & Privacy Requirements		
Process List	Security Design		
Method Statement	Transition Release Approach		
Event List	Testing Approach		
Topic Descriptions	Code of Connection		
Security Impact Assessment	Swagger and API Definitions		
Logical Data Model			

MHHS Programme Design Delivery - Approach

- We appreciate that the constraint within the design process will be availability of industry expertise, therefore, the approach proposed looks to make the best use of this time by not placing any administrative burden on industry resource that can be managed within the MHHS programme.
- On this basis we intend to follow the below process for each of the areas comprising the solution.
- The MHHS Design team will be responsible for producing and maintaining all design artefacts, capture, prioritisation and resolution of all design issues, and management of the review and approval processes.
- L4 Working Group members will be responsible for working through design gaps and issues and reviewing design artefacts
 - First two working groups established and meetings held w/c 1/11/21; Business Process & Requirements and Technical Design
 - 60+ programme participants involved in Design Working Groups
 - We will not be issuing the final design for Industry consultation. Industry needs to be involved throughout the process.



DAG are requested to approve DAG Terms of Reference:

- Role
- Objectives
- Membership
- Scope, deliverables, roles and responsibilities
- Decision making

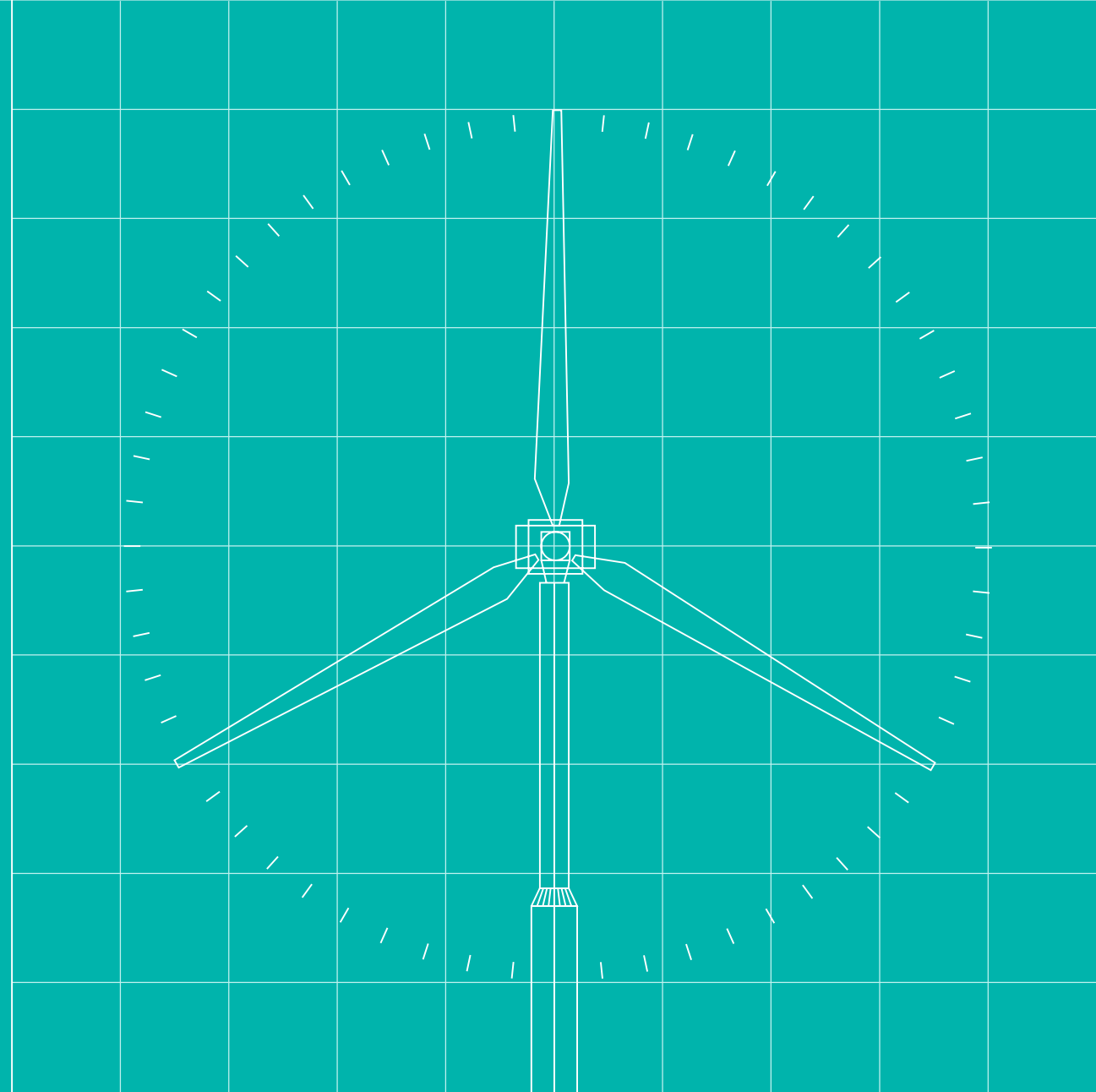
- *See Appendix 1*

Constituency representatives must:

- Engage and consult their constituency members including constituency delivery experts in a timely manner
- Be representative of all constituency members and mediate differing positions
- Be empowered to make decisions on behalf of their constituency
- Attend standing and ad hoc meetings or send alternate (constituency approval for alternates is required)
- Support SRO and Programme decision making as delegated by PSG
- Be meeting ready

DAG should be a mix of business, system, data, design, security and solution technical experts

Level 4 working group ToR

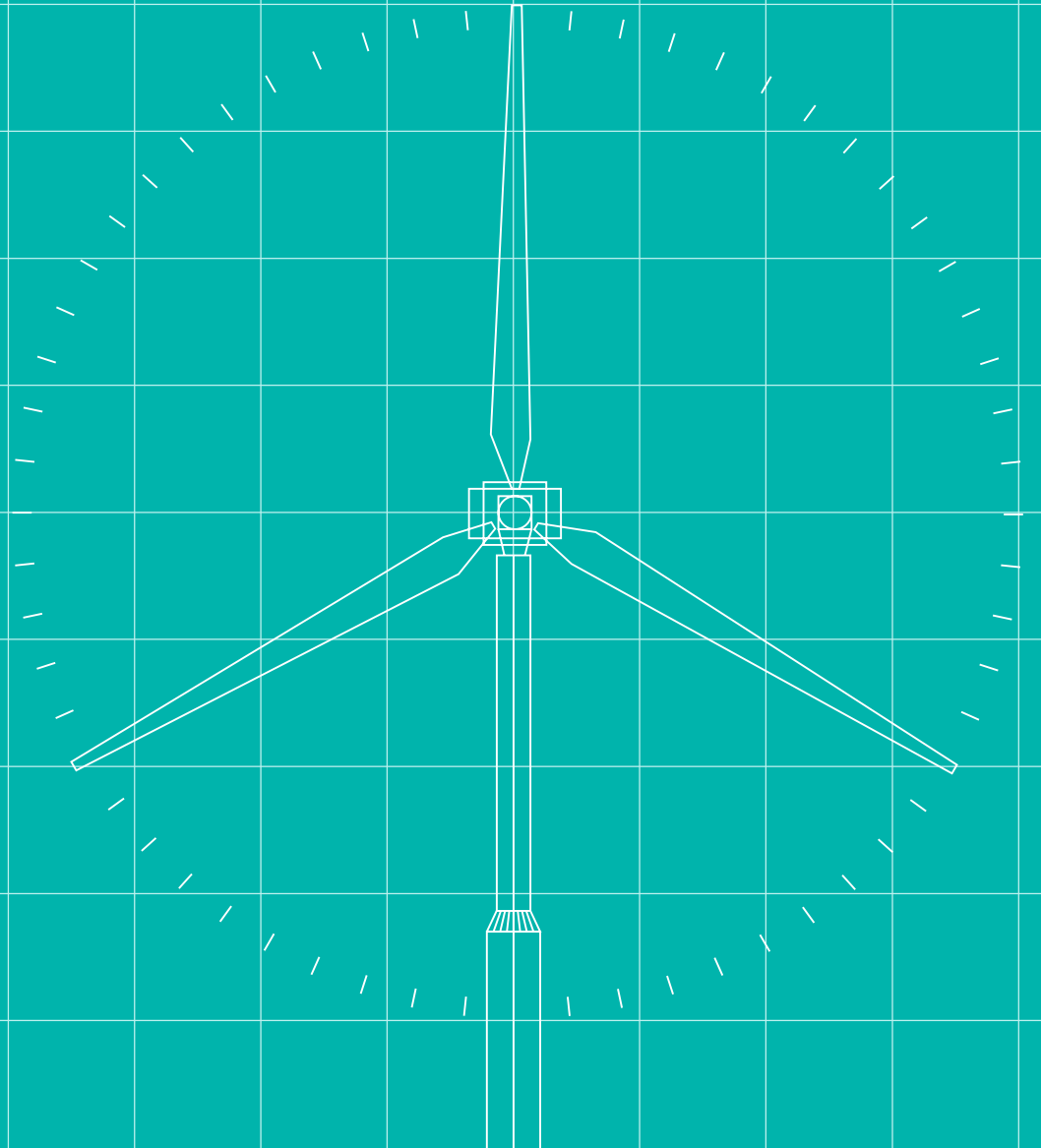


DAG are requested to approve Level 4 working Terms of Reference:

- Role
- Objectives
- Membership
- Scope, deliverables, roles and responsibilities
- Decision making

- *See Appendix 2*

Level 4 working group progress update



MHHS Programme Design Delivery – L4 Working Group Update

Business Process & Requirements Working Group

- First BPRWG held on 3rd November
- 58 participants identified and 41 attended the initial session
- First Smart Sub-group meeting will take place on Thursday 11th Nov for which we have 28 volunteers
- First Registration Sub-group meeting will take place on 16th Nov for which we have 24 volunteers

Technical Design Working Group

- First TDWG held on 4th November
- 42 participants identified and 27 attended the initial session – good level of technical expertise identified
- Strong participant engagement within the session
- The first TDWG sub-group will take place on 18th Nov to agree the Technical Design Principle and Assumptions

- Strong levels of engagement in both sessions and feedback has been positive
- Both Working Groups are supportive of the approach and ways of working, noting that in order for it to work fully engaged representation is needed from across all constituencies
- Requests for further participants to get involved have been communicated in the newsletter and via the website but any further help you can provide from your constituencies would be greatly appreciated.
- Detailed design activity is now underway within the initial sub-working groups and a plan of activity for the remainder of the year has been communicated.

MHHS Design- Stakeholder Heat Map

Constituency	PSG	IAG	DAG	BPRWG	TDWG
Elexon (as central systems provider)	Elexon	Elexon	Elexon	Elexon (2 x Lead Contacts)	Elexon (2 x Lead Contacts)
DCC (as Smart meter central systems provider)	DCC	DCC	DCC	DCC (4 x Lead Contacts)	DCC (4 x Lead Contacts)
Large Supplier				British Gas (x2) SSE (x2) E.ON Next (x3) npower Business Solutions (E.ON) (x2) OVO Energy (x1)	E.ON Next (x3)
Medium Supplier	Shell	Shell	Shell	Utility Warehouse (x3) Octopus Energy (x1)	Utility Warehouse (x1) Octopus Energy (x1)
Small Supplier			ESG Global	Smartest Energy (x1) Positive Energy (x1)	Smartest Energy (x1) Positive Energy (x1)
I&C Supplier	Waterswye Associates	Waterswye Associates	Waterswye Associates		
Independent Supplier Agent				Callisto Data Ltd (x1) Siemens Managed Applications & Services (x2) TMA Data Management Ltd (x5) Stark Software International Ltd (x2) IMServ Europe Ltd (1 x Lead Contact)	Callisto Data Ltd (x1) Siemens Managed Applications & Services (x4) TMA Data Management Ltd (x3) Stark Software International Ltd (x1)
Supplier Agent	IMServ Europe Ltd	Stark Software International Ltd	SMS Plc	Lowri Beck (x1) Power Data Associates (x1)	
DNO	UK Power Networks	Scottish & Southern Electricity Networks	Western Power Distribution	Scottish & Southern Electricity Networks (x4) SP Energy Networks Northern Power Grid	Scottish & Southern Electricity Networks (x1) SP Energy Networks (x1)
iDNO	BUUK Infrastructure Ltd	BUUK Infrastructure Ltd	Energy Assets Group Ltd	BUUK Infrastructure Ltd (x1)	BUUK Infrastructure Ltd (x2)
National Grid ESO	National Grid ESO	National Grid ESO	National Grid ESO	National Grid ESO (1 x Lead Contact)	National Grid ESO (1 x Lead Contact)
IT Service Providers				St Clements (x1) Salient Systems Ltd (x1) CGI (x1) Electralink (x1) EDW Technology Ltd (x1)	St Clements (x2) Salient Systems Ltd (x1) CGI (x1) Electralink (x2) EDW Technology Ltd (x1) Ensek (x1)

MHHS Design- DAG and Level 4 Working Group Schedule

2021

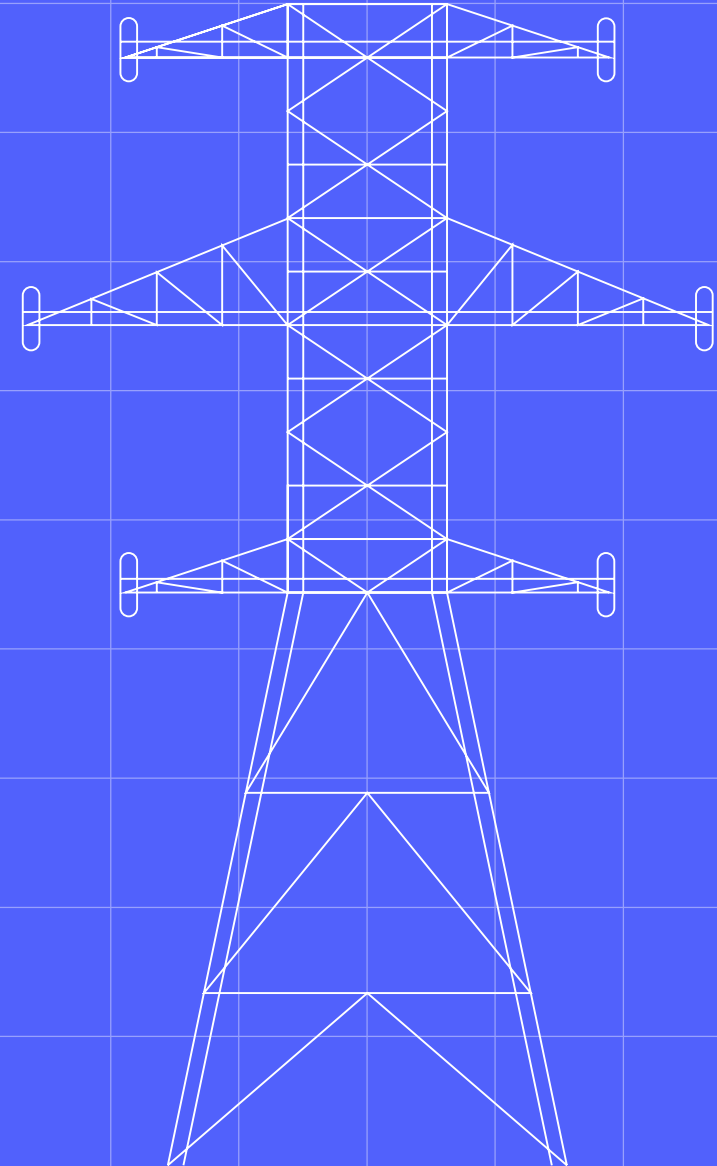
November				
Mon	Tue	Wed	Thurs	Fri
	1	2	3	4
		BPRWG		
Mon	8	9	10	11
		DAG Papers	Smart Sub-group	Agenda Registration Sub-group
Mon	15	16	17	18
Agenda Smart Sub-group	Registration Sub-group	DAG	Smart Sub-group TDWG Sub-group	Agenda Registration Sub-group
Mon	22	23	24	25
Agenda Smart Sub-group	Registration Sub-group	BPRWG papers	Smart Sub-group TDWG Sub-group	Agenda Registration Sub-group
Mon	29	30		
	Registration Sub-group			

December				
Mon	Tue	Wed	Thurs	Fri
			1	2
		BPRWG		Agenda Registration Sub-group
Mon	6	7	8	9
		DAG papers	TDWG	
Agenda Smart Sub-group	Registration Sub-group	DAG	Smart Sub-group TDWG Sub-group	Agenda Registration Sub-group
Mon	13	14	15	16
Agenda Smart Sub-group	Registration Sub-group		Smart Sub-group TDWG Sub-group	Agenda Registration Sub-group
Mon	20	21	22	23
Agenda Smart Sub-group	Registration Sub-group	BPRWG papers	Smart Sub-group TDWG Sub-group	
Mon	27	28	29	30
		DAG Papers		

Note:

- The remaining BPRWG sub-groups (Advanced, Unmetered and Elexon Central Services) are yet to be planned but are expected to begin in December
- We are looking to commence the Security Working Group by the end of November
- Meeting calendar: <https://mhhsprogramme-production-cdn.s3.eu-west-2.amazonaws.com/wp-content/uploads/2021/11/15123039/MHHS-Programme-Design-Level-4-Working-Groups-Schedule-2021.pdf>

Next steps



Design Next Steps

Meeting Actions

- Confirm actions

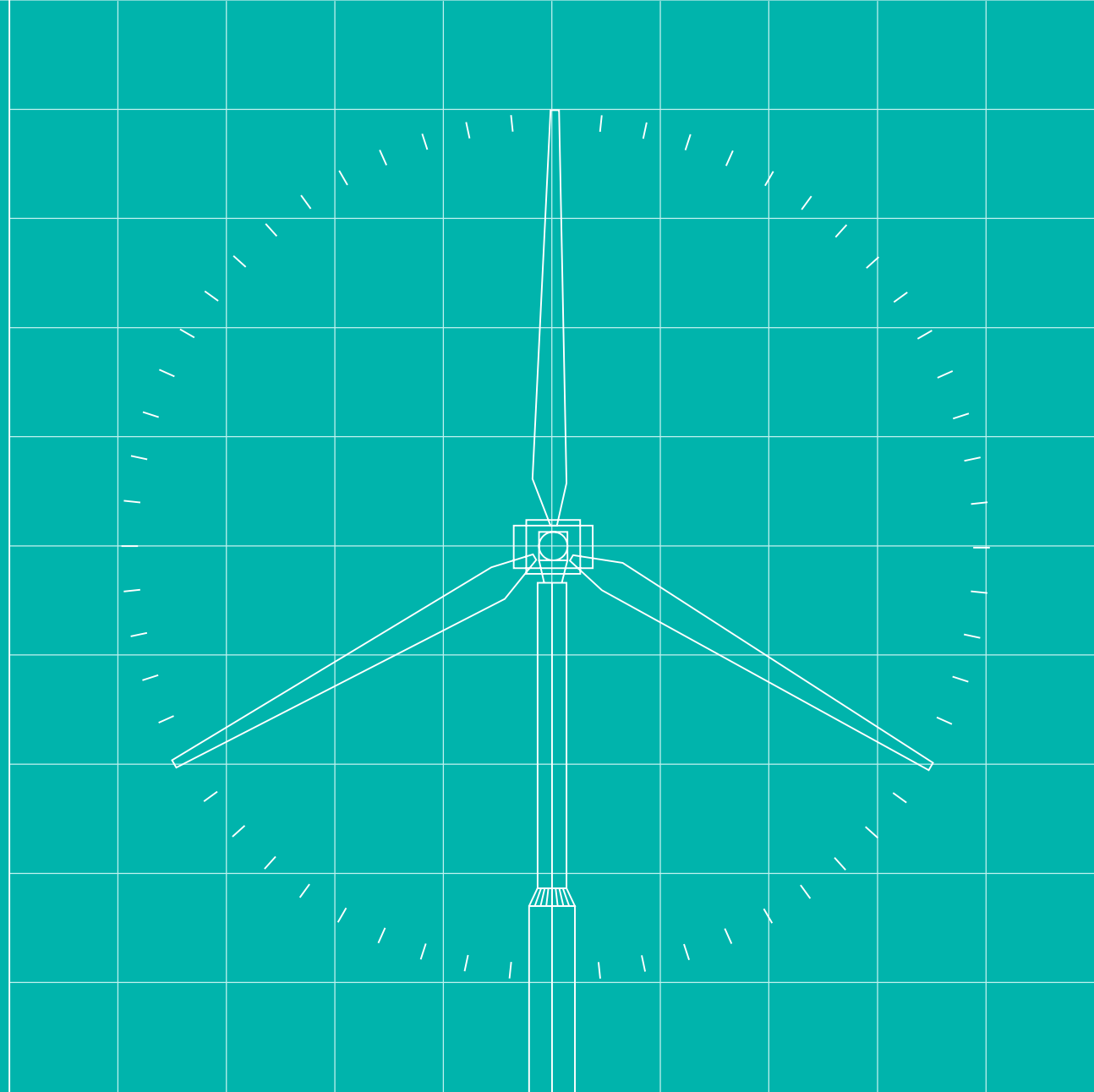
Constituency Reps

- Consult your constituencies to assess plan baseline timetable
- Encourage participation in Level 4 working groups

Next meeting: 8 December

- Design progress update
- MHHS Industry group interaction update
- Potential escalations and requests for decision
- Potential design artefacts for approval

Appendices



DAG Role

The DAG's role is to oversee, review, consult and approve, the MHHS Programme development of the end-to-end business processes, system and data architecture that delivers the detailed system design that enables all programme participants to design, build and test their individual system and business changes.

DAG Objectives

- To be the primary decision making authority for the system and solution design, unless above Ofgem thresholds.
- To oversee the Programme design outputs, review and validate the output contents against objectives and expectations, send the deliverables for consultation and approve the design artefacts.
- Ensure different programme participant perspectives are appropriately represented during decision making.
- Enable Design transparency for all impacted constituency groups and stakeholders.
- Delegate appropriate tasks and activities to Level 4 working groups.
- Receive escalations from lower level workgroups and reach consensus on decisions, so the Programme design work progresses to plan.
- Provide detailed advice to the SRO, PSG and other groups if required.

DAG Membership

The DAG Membership is the SRO as Chair, technical expert representatives from each programme participant constituency and Ofgem as an observer:

1. SRO DAG - Chair
2. SRO Design Manager
3. Lead Delivery Partner (LDP) Programme/Design Manager
4. Lead Delivery Partner (SI) System Integrator Manager
5. Independent Programme Assurance (IPA) Manager
6. Elexon Representative (as central systems provider)
7. DCC Representative (as smart meter central system provider)
8. Any other provider of a central system required for MHHS implementation (e.g. communications provider)
9. Large Supplier Representative
10. Medium Supplier Representative
11. Small Supplier Representative
12. I&C Supplier Representative
13. Supplier Agent Representative (Independent Supplier Agent)
14. Supplier Agent Representative
15. DNO Representative
16. iDNO Representative
17. National Grid ESO
18. Consumer Representative
19. Ofgem (Observer, to attend as appropriate)
20. The PMO will attend to act as meeting secretariat.

Appendix 1: DAG Terms of Reference (extracted from MHHS-DEL031 MHHS Programme Governance Framework v1.1)

Purpose and Duties of MHHS Design Advisory Group

DAG's purpose is to be the mechanism that oversees, reviews and approves end-to-end business processes, system and data architecture deliverables that produce the detailed system designs that enables all programme parties to design, build and test their individual system and business changes.

DAG is responsible for all design decisions and all requests that impact on design.

DAG is responsible for overseeing the development of the physical baseline which will provide the detail necessary for all parties to commence system design and build.

DAG Scope, Deliverables, Roles and Responsibilities

DAG's scope is the development and management of all system and process design artefacts.

The SRO (or someone delegated by the SRO from within the MHHS Implementation Manager function) will chair the meetings.

The PMO will maintain and communicate up to date meeting documentation.

The PMO will maintain an up to date Programme plan, RAID log and actions log.

The PMO will provide all meeting management services and deliver all regular and ad hoc meetings.

DAG Members (or nominated alternatives) will attend every meeting.

DAG Members will be fully meeting prepared before the meeting starts.

DAG Members should be a mix of business, system, data, design, security and solution technical experts.

Decision Making

The DAG will make Level 3 decisions and Level 2 decisions when delegated from the PSG. (Level 1 decisions will be escalated to Ofgem by the SRO or IPA).

The DAG can delegate decisions to another Level 3 group or a lower level work group.

The DAG will ensure that any decisions are based on full transparency with programme participants and appropriate consultation.

Where parties raise significant concerns with a DAG decision, the concern will be resolved by DAG or escalated to the PSG via a constituency representative.

Consultation will be carried out on an ongoing basis, with the DAG taking decisions based on information developed by Design Working Groups.

Where the DAG is presented with recommendations from Design Working Groups they will have the ability to:

- i. Accept the recommendation – the proposal/recommendations are aligned to the TOM and overall objectives.
- ii. Reject the recommendation – the proposal/recommendations does not align to the TOM, programme principles or requires further work/clarity.
- iii. Refer the recommendation for additional work or analysis.
- iv. Accept the recommendation, subject to additional work being completed.
- v. Refer to the PSG when the recommendation meets the threshold for Ofgem intervention or DAG cannot reach consensus.

Decisions and outputs of the DAG will be published within 10 working days of the meeting.

Appendix 2- Level 4 Working Groups: Business Process & Requirements- ToR

Business Process & Requirements Working Group (BPRWG) Terms of Reference (Level 4)- DRAFT	
<p>Role: The role of the BPRWG is to contribute to the business process design and requirements of the end-to-end MHHS arrangements and ensure timely submission of business design artefacts to the DAG for approval.</p>	<p>Objective: To review the existing Business Process Models and requirements and work these down to the next level of detail To review the business process and requirements products and artefacts and oversee the development of the required legal text To analyse the implication of the new arrangements for the operation of their organisations and identify any issues which may impede an ability to deliver MHHS. To assess the implication of specific design decisions against the programme design principles To ensure timely submission of business process design artefacts to the DAG for approval To identify and escalate any issues whereby a consensus cannot be reached within the working group to the DAG.</p>
<p>Purpose and Duties: BPRWG's purpose is to develop the business processes and requirements for the end-to-end MHHS design. Industry subject matter experts will come together to review the existing business process maps and requirements and work these down to the next level detail. Members will contribute to specific business processes as well as providing review of all business processes. Ongoing consultation will be carried out to ensure timely reporting of business process design artefacts to the DAG for approval.</p>	<p>Scope, Deliverables, Roles and Responsibilities: BPRWG's scope is to develop the business processes and requirements for the end-to-end MHHS design. The MHHS Design Market & Engagement Lead will chair the meetings. The Secretariat will provide all meeting management services and deliver all regular and ad hoc meetings. BPRWG Members (or nominated alternatives) will attend every meeting. BPRWG Members will be fully meeting prepared before the meeting starts. BPRWG Members should be a mix of business analysts, market architects, solution architects and industry subject matter experts. BPRWG members will be expected to actively contribute to the development and review of collateral required to achieve the deliverables, this is likely to include completing tasks and actions outside of the Design Working Group. Meeting attendance is open to all, unless otherwise determined.</p>
<p>Decision Making: The BPRWG will report their output to the DAG for approval. This will occur on an ongoing basis and may require engagement with wider industry. Where the BPRWG is unable to reach a consensus on a decision delegated to them by DAG the matter will be escalated to the DAG.</p>	
<p>Membership: MHHS Design Market & Engagement Lead (Chair) MHHS Design Business Analyst, MHHS Design Market Architect, Industry participants from, but not restricted, to the following parties- Elexon (as Central Systems provider), Smart DCC (as Smart meter central systems provider), Large Suppliers, Medium Suppliers, Small Suppliers, I&C Suppliers, Independent Supplier Agents, Supplier Agents, Distribution Network Operators, Independent Distribution Network Operators, National Grid ESO, Meter Administrator, IT Service Providers.</p> <p>Meeting attendance is open to all</p>	

Appendix 2- Level 4 Working Groups: Technical Design- ToR

Technical Design Working Group (TDWG) Terms of Reference (Level 4)- DRAFT

Role:

The TDWG's role is to take the architecture recommendations made by the AWG to a detailed level that will enable participants to commence system development.

Purpose and Duties:

TDWG's purpose is to take the architecture recommendations made by the AWG to a detailed level that enables participants to commence system development.

Technical subject matter experts will support the work required to procure an architectural partner and work with the organisation(s) chosen to provide architecture services to ensure the technical design is aligned with the design principles and considers all impacted parties.

Ongoing consultation will be carried out to ensure timely reporting of technical design artefacts to the DAG for approval.

Decision Making:

The TDWG will report their output to the DAG for approval. This will occur on an ongoing basis and may require engagement with wider industry.

Where the TDWG is unable to reach a consensus on a decision delegated to them by DAG the matter will be escalated to the DAG.

Membership:

MHHS Design Market & Engagement Lead (Chair)

MHHS Design Business Analyst,

MHHS Design Market Architect,

Industry participants from, but not restricted, to the following parties- Elexon (as Central Systems provider), Smart DCC (as Smart meter central systems provider), Large Suppliers, Medium Suppliers, Small Suppliers, I&C Suppliers, Independent Supplier Agents, Supplier Agents, Distribution Network Operators, Independent Distribution Network Operators, National Grid ESO, Meter Administrator, IT Service Providers.

Meeting attendance is open to all

Objective:

To review the architecture recommendations developed by the AWG and work these down to a detailed level that allows for participants to commence system development.

To support the work required to procure an architectural partner and work with the organisation(s) chosen to provide architecture services to ensure that the technical design is aligned with the design principles and considers all impacted parties.

To ensure timely reporting of Technical Design artefacts to the DAG for approval.

To identify and escalate any issues whereby a consensus cannot be reached to the DAG.

Scope, Deliverables, Roles and Responsibilities:

TDWG's scope is to develop the technical design for the end-to-end MHHS design.

The MHHS Design Market & Engagement Lead will chair the meetings.

The Secretariat will provide all meeting management services and deliver all regular and ad hoc meetings.

TDWG Members (or nominated alternatives) will attend every meeting.

TDWG Members will be fully meeting prepared before the meeting starts.

TDWG Members should be a mix of business analysts, market architects, solution architects and industry subject matter experts.

TDWG members will be expected to actively contribute to the development and review of collateral required to achieve the deliverables, this is likely to include completing tasks and actions outside of the Design Working Group.

Meeting attendance is open to all, unless otherwise determined.