ELEXON

FMAR Design Workshop 2 Summary Notes

Meeting Number	02	Venue	MS Teams
Date of Meeting	11 September 2025	Classification	Public

Summary

1. Welcome & Agenda

1.1 Elexon welcomed participants to the second design workshop and discussed housekeeping for the session.

1.2 The agenda for the session included:

- Business Use Cases & Automatic Asset Registration
- System Uses Cases
- Organisation Data Definition
- Asset Data Definition & Unique ID Convention
- Use-Case Spotlight Discussion (Sequence Diagrams)

2. Business Use Cases & Automatic Asset Registration

2.1 **FMAR Solution:** The FMAR solution is an IT system that registers and keeps track of data about flexible assets, flexibility service providers, and the relationship between them.

2.2 **Key Goals:**

- Simplify market entry and reduce administrative burden, especially for Flexibility Service Providers (FSPs) and Independent Market Platforms (IMPs).
- Enhance network planning and investment efficiency for NESO/DSO.
- Enable efficient and coordinated market operation.
- Increase market liquidity and competition by enabling asset switching between FSPs.
- Assure regulatory compliance, market oversight, and policy strategy by informing policymakers and NESO.
- Foster innovation and reduce technology integration costs through standardised APIs and alignment with data standards.
- Enable new community and peer-to-peer flexibility models using a trusted data layer for asset location and a master view.

2.3 **Primary Stakeholder Beneficiaries:** Flexibility Service Providers (FSPs), NESO/DSO, IMPs, Original Equipment Manufacturers (OEMs), and DNOs.

2.4 **Automatic Asset Registration:** Full value is realised when FMAR can capture data at the point of installation, (UC-02.02). Elexon is minded-to incorporate scalability into the go-live design. This is subject to an internal impact assessment on time and cost to delivery

2.5 **Business Use Cases:** Please find on GitHub for comment here.

3. System Use Cases

3.1 **FMAR Conceptual Model:** A high-level conceptual model was presented to show where FMAR fits within the broader ecosystem. Please find the GitHub link here for comment.

3.2 **System Use Case Catalogue:**

- Group 1: User Onboarding and Offboarding
- Group 2: Asset Registration and Maintenance
- Group 3: Market Unit Registration and Maintenance (Phase 3)
- Group 4: Product and Qualification Management
- Group 5: System-wide Functions and Integrations

3.3 **New System Use Case Group:** A new group is being considered for Data Quality Management to define system use cases for:

- Defining and maintaining data quality rules.
- Validating and scoring data at ingestion.
- Viewing data quality scorecards.
- Managing data discrepancies.

3.4 **Emerging Security Considerations:**

- User Role and Permissions: A clear model for role-based access control is needed.
- Organisation Validation: Need to consider validation beyond Companies House.
- Authentication Model: Defines who owns and maintains it for secure and consistent validation.
- Asset Validation: Must include supply chain risk assessments.
- API Security: Robust authentication layers, rate limits, and session management are needed.
- Data Correction Process: Requires well-defined procedures for authenticating and validating user-corrected data.
- Product and status validation: Ensure Product IDs are validated, and contractual obligations define third-party status updates.
- Delegation and API credentials: Establish delegation rights and secure API credentials management.
- Consumer Consent: An internal flow is needed to verify consent tokens from gaining FSPs.
- Rate limits and sessions: Implement rate limits and manage concurrent sessions for API security.
- Supply chain risk: Broader security considerations required from a supply chain risk perspective.

3.5 **Participant discussion on this Sections 2 & 3:**

3.5.1 A participant asked for clarification on the 'market unit' definition. **Elexon explained** it can be looked at as an asset group - many assets at different connection points or behind the same point that form a single unit for bidding in a market, often with a geographical dimension as they are often clustered. The data on these units would be considered master data, and the FSP is responsible for keeping it up to date.

3.5.2 One participant expressed support that Elexon had considered collecting data at installation and including all asset visibility elements into the design.

3.5.3 A participant asked about the relationship between FMAR data and NESO's more stringent data requirements. **Elexon noted** that this would require a discussion with FMAR parties and the Single Markets Platform (SMP) to determine the marginal value of including additional data fields in FMAR to reduce the data ingestion needs of the SMP.

3.5.4 A participant emphasised that there would likely be significant differences in data requirements and that NESO would likely need to augment data from FMAR.

3.5.5 Ofgem expressed appreciation for Elexon's strategic engagement on future optionality and highlighted that while Elexon provides views and impact assessments, the final policy decision on material scope changes rests with Ofgem or DESNZ (Department for Energy Security and Net Zero)

3.5.6 Ofgem provided public timelines for policy publications:

- DESNZ's response on asset visibility is committed to be released by the end of the year.
- Ofgem's consultation on DNO asset registers and holding asset type data will be launched by the end of the year.
- Decisions on FDI and wider outcomes like user registration are also committed by the end of the year, with hopes for an earlier publication in late October or November.

3.5.7 A question was raised about the limited initial scope of the Consumer Consent Solution (CCS). **Elexon confirmed** that RECCo plans for the solution to go live in Spring 2027, which aligns favourably with FMAR's planned go-live in Q3 2027. Elexon plans to engage in technical alignment workshops with the RECCo team to work through the integration.

3.5.8 **Elexon acknowledged** a potential concern about the initial limited scope of the CCS.

4. Organisation Data Definition

4.1 Elexon presented the data definition concepts, starting with users.

4.2 **FMAR Users:** An FMAR user is a body that interacts with the system. There are two types (please find the GitHub like here for comment):

- Organisations: Likely to have roles such as FMAR Operator/Administrator, Flexibility Service Provider, Independent Market Platform, System Operator, and other Third-Party (e.g., OEM, Installer).
- Individuals: Can be anonymous (accessing aggregated public info) or a trusted individual (the data owner of a private asset). The role of individuals is less defined and requires further alignment with external initiatives like the Smart Data Schemes work by DESNZ.

4.3 **Organisation Data Products:** Two levels of data are being:

- Core fields: An internally generated unique OrganisationID, recorded_at and recorded_by, scopes (based on FMAR RBAC policy), identifiers (list of other ecosystem identifiers), VEN_ID(s), VTN_ID(s) (Dispatch API work). These are needed to support the switching process and consent interfaces.
- Additional fields: A more expansive set of data is needed to support the 'just once' submission of data for registering and commercially qualifying a counterparty. This aims to create a 'passport model' where data submitted once to FMAR can be pulled by other platforms like the Single Markets Platform, reducing administrative burden.

4.4 **Data Model Considerations:** Elexon is minded-to align its FMAR Common Ontology with the Common Information Model (CIM) Classes/Associations due to its well-defined data model and active vendor ecosystem.

5. Asset Data Definition & Unique ID Convention

5.1 **Why a Unique FMAR Asset ID is needed:** A persistent, unique identifier is crucial to prevent asset duplication across multiple stakeholders, establish a single source of truth, and ensure regulatory confidence, data integrity, and auditability. It's necessary for all asset-related use cases like registration and validation (UC-02.02).

5.2 **Options for Asset ID:**

- Attribute-based key: (e.g., Org + MPAN + Type). Pros: Human-readable, simple. Cons: Fragile, prone to duplication if attributes change.
- Business code / Friendly ID: (e.g., "BESS-GreenPark-01"). Pros: Easy for users, intuitive. Cons: Risk of clashes, not globally unique, requires governance.
- System-generated opaque ID: (UUID/ULID). Pros: Immutable, globally unique, scalable. Cons: Not human-readable.

5.3 **Recommended Approach:** A hybrid model.

- FMAR Asset ID: A system-generated opaque ID (UUID/ULID) as the primary key. This is immutable and can handle over 100 million assets.
- Friendly Code: An optional, user-friendly label governed per organisation. This provides a human-readable bridge to the opaque ID.

5.4 Lifecycle & Governance: The FMAR Asset ID is issued at registration and never changes, even if attributes like MPAN or capacity are updated. On de-registration, the ID is archived for audit purposes. FMAR will manage ID issuance and lifecycle, while enforcing uniqueness of friendly codes within each organisation. FMAR will also alias its AssetID with other industry IDs (e.g., OCCP EvseID, Embedded Capacity Register IDs) to promote interoperability.

5.5 Data Definition: The latest thinking on asset data definitions is available for comment on GitHub here, detailing attribute names, business definitions and data formats. Elexon is currently gathering input from FSPs, SOs, and DNOs to ensure the list is comprehensive. For a single asset submission, there may be multiple data sources to validate different data fields against (e.g., Ecos API for MPAN validation, MCS registry for asset data). API for MPAN validation, MCS registry for asset data).

5.6 UML Sequence Diagrams: Two diagrams were presented to visualise process flows:

- Register & Validate Asset: Shows the flow from an asset owner/installer submitting data to FMAR, which then verifies consumer consent and performs internal checks (conformance, duplication) and external validations before registering the asset and returning a unique ID.
- Asset Switch between FSPs: Illustrates how a gaining FSP submits a switch request to FMAR with a consent token, which FMAR validates. FMAR then acts as a communication hub, notifying the losing FSP, the System Operator, and optionally the consumer about the switch. This use case highlights the complexity of integrating with the consumer consent solution and the need for a well-defined process to handle events like consent revocation.

5.7 **Participant discussion on Sections 4 & 5:**

5.7.1 A participant asked if FMAR's asset data would be aligned with the technical qualification templates from the ENA. **Elexon confirmed** that this was the intention and that if it was not currently aligned, a later version would be published on GitHub.

5.7.2 A question was raised about whether an asset switch could be refused if the asset was already under a contract to provide flexibility to a system operator. **Elexon explained** that the FMAR system would need well-defined business logic for switching, and a key consideration would be representing the time duration of contracts to automatically reject a switch if a service window was already confirmed for another FSP.

5.7.3 One participant asked if FMAR would have consequential changes to existing processes, specifically referencing the AMVLP (Ancillary Services Market and Licence-Exempt Party) process. **Elexon noted** that FMAR will likely cause consequential changes to existing industry processes like the AMVLP process and supplier MPAN registrations, as they will need to align with FMAR's new processes.

5.7.4 A participant noted that in the asset switching sequence diagram, the gaining FSP is shown to know the FMAR Asset ID, but in reality, they might not. **Elexon agreed** that this was a valid point, especially if the asset had not yet been registered in FMAR.

5.7.5 **Elexon explained** that there must be a way to look up the FMAR Asset ID using external identifiers such as an MPAN or serial number. **Elexon encourages** feedback from FSPs on what specific external IDs would be most useful for this lookup process.

5.7.6 A participant raised a question about the benefit of having a Friendly Code if it's only unique within an organisation. **Elexon explained** that the friendly code acts as a bridge between the machine identifier and human communication, making it easier for users without compromising the robustness and immutability of the UUID.

5.7.7 A participant suggested that UUIDs might be hard to work with and asked about the advantage over a simple integer. **Elexon acknowledged** this and noted that UUIDs offer pure randomness and scalability that a monotonically increasing integer might lack, but this will be further considered based on feedback and non-functional requirements.

6. Future Dates & AOB

6.1 Future workshop dates:

- Workshop 3: 23 October 2025 (12:30 – 14:30 GMT)
- Workshop 4: 4 December 2025 (12:30 – 14:30 GMT)

6.2 Elexon shared a poll to gather feedback on the format and content of the FMAR Design workshop series. This feedback will be used to evolve and shape future workshops, and the link will remain open until the next session.

6.3 Elexon thanked participants for their contributions.