

# Co-develop & License an MAL Power Pack

METALECTRIQUE TECHNOLOGIES





# #1 Benefit from future performance increases



The prototype model manufactured for your licensed vehicles will benefit from:



Improvements in cathode cell lifespan, resulting in less frequent refuels



Improvements in energy density for lift or acceleration scenarios



Suggested modifications to your prototype design based on the latest R&D research



The possibility to migrate from a hybrid configuration to an aluminium air-only power unit



## #2 Offer smart refuelling to your users from 2022

Our optional user app setup service included in your Level C programme will enable you to:



Offer refuelling kits to your users based on the final pricing established by the end of your Level B programme



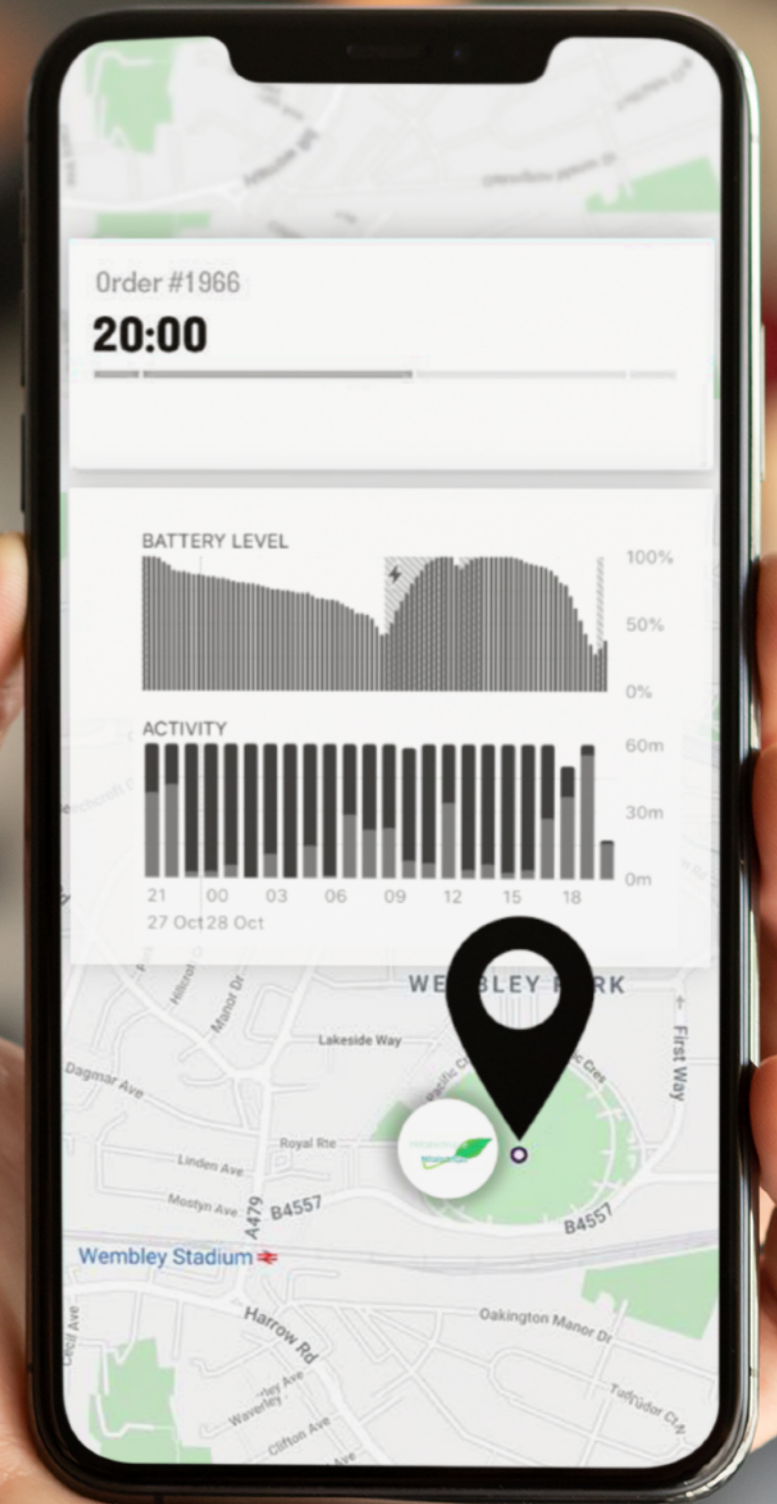
Enable users to order refuelling kits to their home address or a specified warehouse with live tracking



Provide key updates to users on their estimated remaining range or running time



Offer additional paid options for the user's vehicle or appliance







# #3 Help found a truly CO2-free supply chain



To improve our refuelling kit supply service, you can:



Benefit from the entities involved in the refuelling supply chain for your sector and region



Choose an area of supply chain to offer your advice and expertise



Support future improvements to reduce refuelling kit costs, attracting more users to your vehicles



Support the transition to fully MAL-powered refuelling kit delivery vehicles by 2030





## What are the key deliverables I should expect during my Level A feasibility study service?

Spanning an estimated 14 days, you can expect your Level A feasibility study service to include the following:

1. Start-up workshop
2. **Full project requirements capture** to identify the requirements, risks, interfaces, and assumptions that will inform attributes of the design. This stage will generate work packages and update project progress as the project converges towards the final design in response to new factors. This convergent project management methodology proprietary to MAL has origins in military projects and nuclear engineering and offers the advantage to team members to track this convergence in the form of a graphical diagram over the course of the Level B project. A separate workbook spreadsheet will be used to plan projects Level B and C respectively.
3. The prototype concept workshop, which will outline the concept for the future power pack and how it could be integrated into the appliance or vehicle in development
4. The refuelling infrastructure planning workshop, which will be used to identify the most appropriate Level C refuelling configuration, and how the design of the refuelling kit and mechanism can be tailored to predicted user behaviour and local infrastructure.
5. The costings workshop, that will identify the final quotation for the Level B programme based on the previous sessions; the estimated cost per installed unit during the Level C licence; and the estimated cost per refuelling kit when ordered during the Level C service. Moreover, this collaboration during Level A will ensure that all costs are based on all factors available.
6. Final report, including permission for sharing with press releases, funding organisations and other partners



## Which assets does my organisation own once the prototype design is ready?

At the end of the Level B prototype development programme, the detail on the IP boundary is defined in Clause 7.1 of your contract. This will depend on the unique circumstances of your project, but may include the following:

- IP ownership of all reports, and concept designs and project plans
- IP ownership of the connector interfaces
- IP ownership of the design for the refuelling mechanism extension
- IP ownership of the external case design
- Licensed use per user for the integrated aluminium air system, including the stem refuelling mechanism; the refuelling kit design; and the following supply of refuelling kits
- Future performance enhancements and updates to the refuelling kit design in response from improvements of the stem technology
- The right to use your owned assets (including your external case design) in press releases and other marketing material, establishing your organisation as an official co-developer with MAL
- Future updates to the application and user interface for refuelling in response to operational improvements
- Effective exclusivity of the power pack configuration for this appliance or vehicle model due to your ownership of said foreground IP assets



# FAQs & Commercial Scenarios



What is the purpose of a Level B prototype co-development programme?

In effect, the purpose of a Level B development programme is to co-develop a power pack prototype that can then be mass-manufactured and deployed in the next stage (Level C), therefore enabling your appliance or vehicle in development to be sold on mass using our integrated aluminium air technology.



What would be a 'standard refuelling' kit be configured for my 2023 roll-out?

If your vehicles or appliances are planned to be consumer-facing, your users will be able to re-order your model of refuelling kit separately via a dedicated refuelling and tracking application currently in development.

This has the advantage of passing on the cost and process involved in handling refuelling to the user, enabling him or her to control the number of ordered kits according to monthly usage levels. This will enable you to equip your manufactured vehicles or appliances with your power pack design along with the ease of directing users to the MAL application for ordering refuelling kits to their home address.



How would an 'internal refuelling kit' be configured?

If your users will not be involved in the refuelling process, we can produce a white label copy of our standard refuelling application, which will enable you to offer your refuelling kits under your own brand.

Moreover, in addition to the possibility of making some margin on each refuelling kit, your custom application will also be able to include other service offerings that maximise the profitability of each service interaction: this could mean offering your own installation and refuelling service to users within your existing network; or could mean offering a conversion and refuelling service under your existing brand for other organisations.



What is the overall process of collaboration during the Level B co-development programme?

This basic overall structure of this R&D phase is as follows:

1. The target attributes of the final power pack design, including dimensions, attached devices and mechanisms for refuelling are established
2. MAL cathode scientists begin optimising existing cell performance and testing methods, taking advantage of differences in the target design
3. MAL cathode scientists confirm the viability of connector interfaces and attached devices suggested by the client's engineers
4. MAL design engineers update the power pack CAD design for the external case to enable the integration of these approved future interfaces
5. MAL design engineers confirm that the original stem design for the refuelling mechanism can enable the integration of these approved future interfaces
6. MAL design engineers update the CAD design for the refuelling mechanism extension to enable the integration of these approved future interfaces
7. MAL design engineers update the CAD design for the refuelling kit to enable the integration of these approved future interfaces
8. The client's engineers begin to source or design these approved interfaces



Which the volume of monthly installations and refuelling kits during Level C be able to scale in response to increasing demand?

Yes. Each initial power pack installation and subsequent refuelling kits will be delivered as a part of a manufacture and supply service that will respond to your required number of new vehicle installations/conversions per month.





# FAQs & Commercial Scenarios

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How would a refuelling kit for 'aluminium specialists' be configured?

If your organisation is involved in a key part of the supply chain behind the manufacture and delivery of refuelling kits – such as aluminium manufacture and recycling – you may be able to request a more simplistic powder-based refuelling kit design at a reduced price in exchange for taking over part of the aluminium manufacture process: this would involve receiving an additional licence to use our manufacture blueprint with local suppliers within your region.

This option may be available after a 24-month period of working under a standard or internal refuelling kit configuration and will have the advantage of leveraging local suppliers for a reduced refuelling kit price.

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Will I be advised on which refuelling configuration would work best for my planned roll-out?

Yes, this will be explored and established during Level A.

the exact implementation of your future refuelling kit option will be outlined as a deliverable as part of our Level A service. Additionally, the design phases of your future power pack will be influenced by the refuelling kit option you select.

This will influence the power pack interfaces that are prioritised when structuring your Level B project during same Level A workshop and will enable the most efficient collaboration as our cathode scientists adapt their testing methods and cathode performance in response to each interface your engineers produce.

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How much will my Level A, B and C stages cost?

Although the price quoted for your project may vary based on the requirements of your project, you can expect the following costs for each stage:

- £25K-£50K for Level A, paid in advance prior to the project start-date.
- £1.2m-£2m for Level B, payable with a startup deposit across 12 equal monthly instalments.
- After your Level B prototype development programme is complete, you will be able to begin your Level C power pack manufacture and supply service. This will be charged as a monthly fee, based on the agreed price per installation kit and refuelling kit; the agreed number of power pack installations required per month; and the agreed number of refuelling kits required per month, if not paid by the user.



# Request a virtual cell testing demo free of charge

If you are considering a Level B prototype co-development project, you may consider requesting our free cell testing demo.

During your video conference call, one of our engineers will select the stem design best suited for your potential project while conducting a live demo with what would be one of the inserted cells.

This will enable you to imagine the performance of a full power pack designed during your Level B programme.

1

We discuss your requirements and select the stem design model, showing a hand-held replica in real-time during the call

2

We take a test cell that would be inserted into your chosen model and conduct a standalone test demonstration: this is usually with a fan or light, enabling you to gauge performance in real-time

3

Our free virtual cell testing demo also provides a seamless transition into our Level A feasibility study service







# Schedule an introductory call

Before the sharing of sensitive technical data and a virtual demonstration during a paid Level A or B service, you can schedule an introductory call with one of our team members using using options and process below:



Visit our website [www.metaelectrique.com](http://www.metaelectrique.com) to schedule an introductory call using our online scheduling portal

1

**Identify and pre-qualification:** this brief admin stage simply involves checking that your project is compatible with each project stage

2

**Choosing your best option:** this stage involves signing your project contract and processing your first payment to reserve your onboarding dates



Send our projects team an email at [projects@metaelectrique.com](mailto:projects@metaelectrique.com) or to our Admin & Commercial Assistant at [commercial@malrnd.com](mailto:commercial@malrnd.com)

3

**Onboarding:** this stage involves completing your onboarding conference call and organising your project startup workshop

4

**Project workshop:** this stage involves identifying the in-depth requirements of your project and exploring your prototype concept design