

Creating a Sustainable World

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Stakeholder Workshop Findings

Circular Construction In Regenerative Cities (CIRCult) Materials Exchange Platform

August 2022





Contents

This report presents the findings from the CIRCuIT Material Exchange Platform (MEP) workshops. The report has been organised into the below sections.

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MULTIPLE DATES

New Materials Exchange Portal in London - Have your say!

by [Resource Futures](#)

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Location

Online event

Are you a builder, designer, architect, or just fancy a good bit of DIY?
Interested in reuse and sustainability? We want to hear from you!

About CIRCuIT and the MEP

Project and workshop overview

The built environment is accountable for over 10% of London's consumption-based emissions and is the city's biggest producer of waste. ReLondon has partnered with a consortium of 31 organisations across four cities (London, Copenhagen, Hamburg and the Helsinki region) to work together on the Horizon 2020-funded '**Circular Construction In Regenerative Cities**' (CIRCulT) project to tackle this source of waste.

Dsposal was commissioned by ReLondon to develop a functioning 'Materials Exchange Portal', which at a basic level will:

1. Enable users to find materials available for reuse that can be used in their construction projects, and
2. Enable existing platforms to extend the reach of their listings of reusable materials for use by others in the City

In order to build a tool with the best user experience, Resource Futures partnered with Dsposal to run a series of online workshops to understand users' needs when searching for surplus construction materials - whether this be to sell or to buy them. The objective of the workshop was to fully scope and understand needs and priorities, as users of the future online portal, to support Dsposal in building a valuable tool in the long term which will increase the reuse of construction materials and circular economy practices.

Overall, 21 people attended the workshops. They were each two hours in length and were held in MS Teams. Miro was used as the online platform to present and engage participants. Appendix 1 provides snapshots of the Miro 'frames'.

Key Findings



While each workshop varied in its discussions and solutions proposed, the below key findings were shared across all workshops, and thus merit particular attention as the main takeaways from the sessions.

Practical and logistical issues related to reuse in construction inhibit the uptake and success of MEPs

It was overwhelmingly agreed by participants that for any MEP to have wider uptake, we must first find ways to solve the practical and logistical issues related to reuse in construction. While an online platform for materials exchange is welcomed, the platform cannot work if it is not linked with the physical space for storing the goods that are listed. Often the window for pick up of items is so small that items are not posted online. Other challenges with pick up include lack of transport networks, and health and safety issues of individuals coming on site.

Lack of consistency in product specifications and data standards makes searching for and using secondhand materials difficult for construction projects.

The level of product details/attributes that MEP users require varies, e.g. professionals in the commercial sector require detailed product specifications and certifications.

Currently, MEP platforms do not require detailed specifications for listings, which excludes professionals from being able to use the platform for their projects.

There is great opportunity for the MEP aggregator to support the move towards 'deconstruction'

The industry is increasingly talking about 'deconstruction' instead of demolition. There is great opportunity for the MEP aggregator to play a role in this trend, facilitating deconstruction through reuse of materials, and should thus plan for how it could support these practices.

Website functionality

In addition to the contextual and wider discussions around reuse in construction, and how an MEP can fit into this challenging space, participants also discussed their preferences around website functionality. It was overwhelmingly agreed that users do not like to create profiles or input login information, as this was seen as an additional barrier to using the website. Participants were also greatly interested in additional functionality that the aggregator website could provide, such as carbon and cost savings of buying secondhand as opposed to buying new.

Challenges Identified

The main challenges identified can be summarised as issues relating to scale in the reuse sector, standardisation of data across products listed, issues in supply and demand, and website functionality.

Issues of scale

- Sourcing second-hand materials for large scale projects typically has not been done or considered widely; large contractors and developers will be less likely to take on liability of using second-hand materials due to expiration of certifications.
- Existing MEPs are too broad; many times users will be looking for a specific item, so more specialist sites are more useful (e.g. for marble).
- Confusion over who would be the end users of the MEP. Individuals and DIYers don't typically use because MEPs sell large quantities of items (e.g. in pallets). However, professionals also don't use because materials don't have detailed enough specifications, or they don't want to take on liability/risk.

Issues with standardisation of data

- Certification of materials is necessary if reusing in a commercial context. At a minimum, materials should include the manufacturer name, so the material seeker can go back to the manufacturer for re-certification.
- Need to define what the minimum product information requirements are. There must be some standardisation of these data requirements, otherwise the MEP aggregator could become the "wild west", aggregating anything and everything.

Issues of supply and demand

- Big gap in priorities between designers/architects and demolition workers. Product attributes are easily defined when they are still viewed as 'materials', but lose all value when they are considered 'waste', as demolition workers don't have any incentive to preserve and carefully remove materials for resale.
- Sellers are often not available when material seekers need them, and vice-versa. The window of time can be very short (e.g. sometimes a matter of hours), and thus matching supply and demand is very challenging. Storage and delivery of materials is needed to solve this.

- MEPs currently don't offer a reliable and consistent supply of materials. Professional material seekers require more consistency and advance planning by those selling materials, (e.g. advance documenting and posting of available materials) so that they have time to plan/reserve those items to use for upcoming projects.

Issues with website functionality

- It was felt that people don't currently use existing MEPs very much, so aggregating their listings may not be very useful.
- There was near unanimous dislike of creating profiles, usernames/passwords, and receiving email notifications. This was seen as creating an initial barrier that can put people off using MEPs.



Solutions proposed

A well-functioning MEP aggregator could demonstrate that there is a market for second-hand materials, which is sorely needed. Below we present various solutions proposed throughout the workshops to enable this.

Supply and Demand:

- Pre-demolition audits could be linked with the MEP aggregator platform to provide advance listings of materials. Auditors will have a good understanding of the quality, provenance, and other relevant attributes/properties of materials to improve the quality of the listings. This rich information coupled with advance planning will allow for designers and architects to use second-hand materials.

Data:

- Developing data standards, potentially based on pre-demolition audits, and integrating existing material standards (e.g. for wood, steel etc) would improve the quality of listings and increase reuse. Creating website functionality so that users could easily show/hide detailed specifications would cater to both professional users and members of the public.

Website functionality:

- The MEP aggregator could become more of a host/enabler, providing links and information about others in the logistics chain (e.g. storage partners, delivery partners, etc) to facilitate reuse.
- The MEP aggregator could provide a circular economy 'story' for materials reused. Participants in the workshops mentioned that material sellers may be interested in creating a circular economy success story about the materials they have passed on for reuse. The platform could also provide some sort of 'certification' that the item has been reused for sellers to provide BREEAM (or other certification scheme) scores.
- Participants expressed general interest in understanding the carbon and cost savings for buying second-hand over buying new. If the MEP aggregator provided this information, it could serve as an additional incentive to buy second-hand, particularly if they can count this carbon saving within their own businesses.
- Participants liked the idea of the MEP aggregator providing them 'similar' items, if the search term they used did not provide any results. By seeing items that are similar, this reduces frustrations and they may wish to revise their search terms.



User Stories

After the workshops ended, and as part of the analysis and synthesis of the workshops, Resource Futures designed 'User Stories' from the main findings of the workshops. These User Stories are important firstly to understand users' needs and priorities, but also to build user support and to design a viable website in the long term. Having sight of users' priorities, and how they will engage with the website ensures resilience in the tool with invested signatories.

User Stories are developed in software engineering and Agile development. They are structured as follows: ". "As a <type of user> , I want <some goal> so that <some reason>". Here we have developed user stories for material seekers, material sellers, existing MEP platforms, and logistics operators.



As a material seeker...

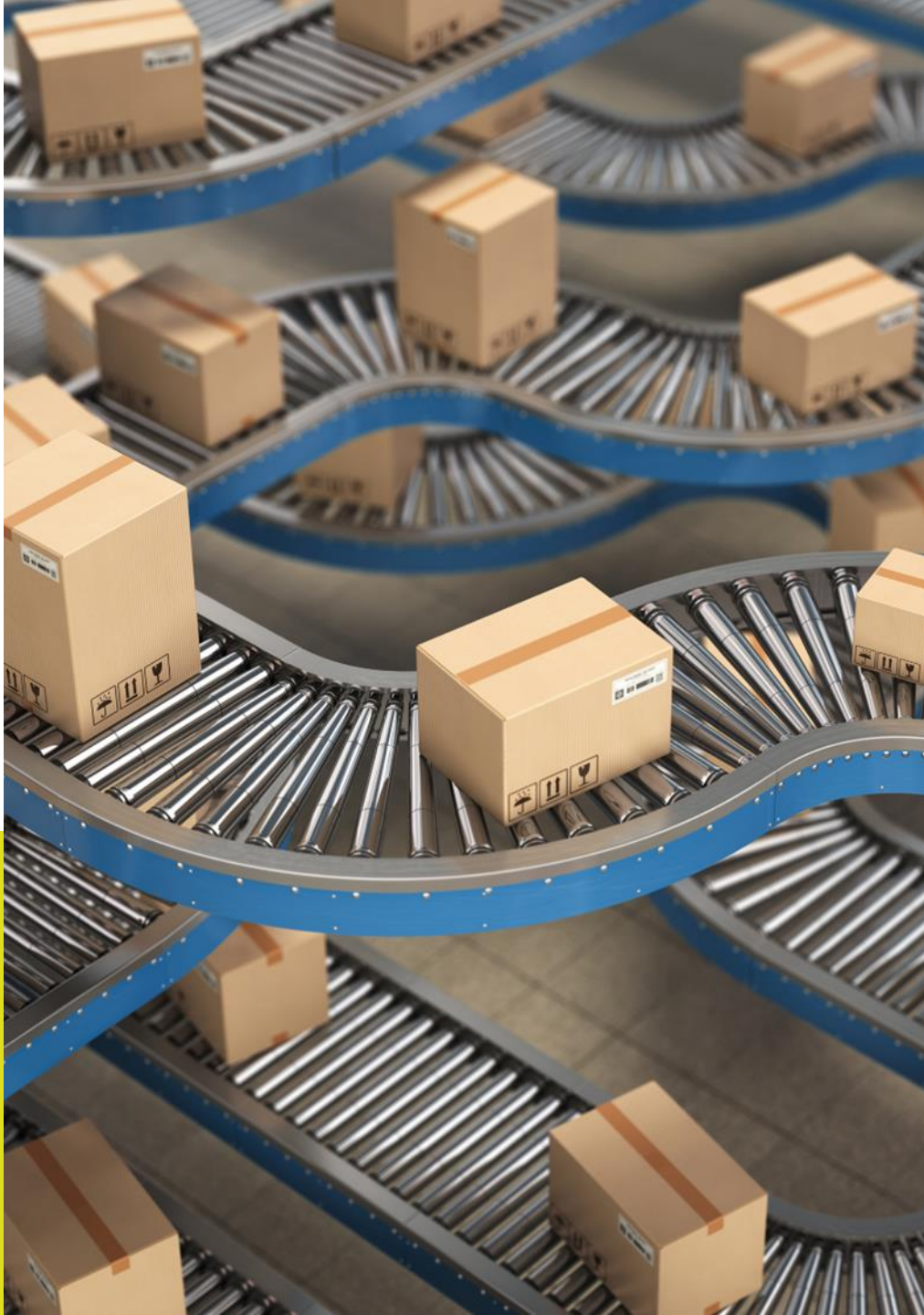
- I want up to date listings so that I know what is and isn't available to buy, and by when it needs to be sold/collected.
- I want highly detailed product specs so that I can determine whether they are suitable for my project.
- I want to be able to search/filter by location so that I can see only those listings in my area.
- I want to compare similar items by certain criteria, e.g. price, so that I can know and choose the best item available for me.
- I want good quality photos of the items so that I can determine whether they are suitable for my project.
- I want to be given suggestions if I don't find anything straight away, so that I can see similar items I may not have thought of.
- I want a streamlined display with standardised information, so that I can easily understand listings.



User Stories

As a material seller...

- I want to use an MEP to sell excess materials so that I can avoid fees associated with disposal.
- I want to be able to quickly and efficiently list my available materials so that I can minimise effort required on site.
- I want to be able to store my available materials offsite so that I can ensure they are reused.
- I want to be able to sell excess materials without having untrained individuals turning up on site so that I can adhere to my health & safety protocols and procedures.
- I want to know whether my listed item was sold, and how much embodied carbon I have saved, so that I can demonstrate circular economy efforts.
- I want to know what the top sold items are so that I can align my available material to demand.



User Stories

As a Materials Exchange Platform...

- I want to grow my user base so that I can have a successful business.
- I want to be featured on the MEP aggregator website so that I can increase my business and facilitate reuse.

As a logistics business operator...

- I want to know pickup/drop-off conditions on site so that I can provide a speedy service to my customers.
- I want to be featured on the MEP aggregator website so that I can increase my business and facilitate reuse.



Next steps

Following the workshops, the team at Dsposal will meet with ReLondon to confirm how best to take on the suggestions and solutions provided at the workshops, in order to build a tool that responds to user needs. As was discussed at the outset of each workshop, every suggestion may not necessarily be able to be built in this iteration of the website. However, these user needs are critical and will be kept to consider future updates of the website.

The development team at Dsposal will design 'wireframes' – i.e. a layout of the web page that will demonstrate what elements will exist on key pages. This is a critical part of the website design process. At the conclusion of the workshops, participants were asked whether they would be interested in testing these wireframe designs, to test usability and functionality. Several people came forward as being interested in usability testing of the wireframes. They will be contacted within the next few weeks.

If you have any further questions or comments regarding the CIRCuIT programme, MEP aggregator, or the workshops, please do not hesitate to get in touch with Sophie Walker, project manager at Dsposal:

Sophie Walker

Sophie@yourdsposal.uk

resourcefutures 

Appendix: Consolidated Workshop Frames

Material Exchange Platforms

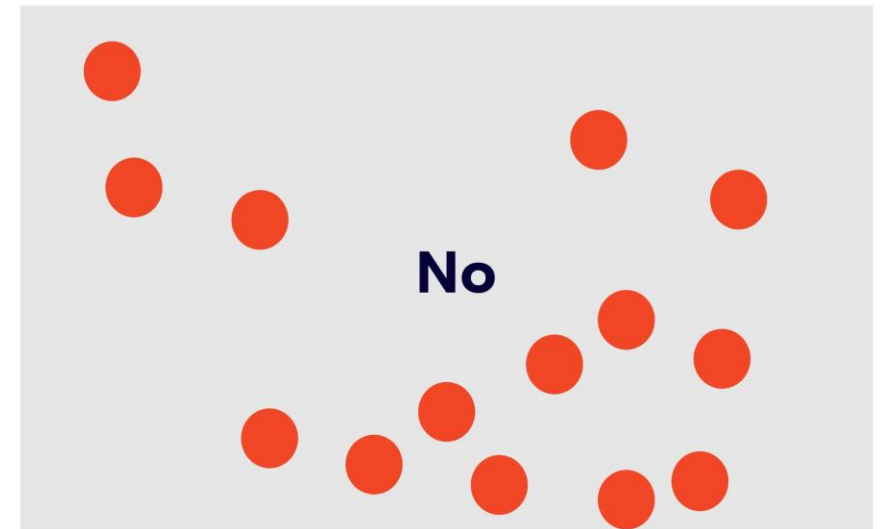
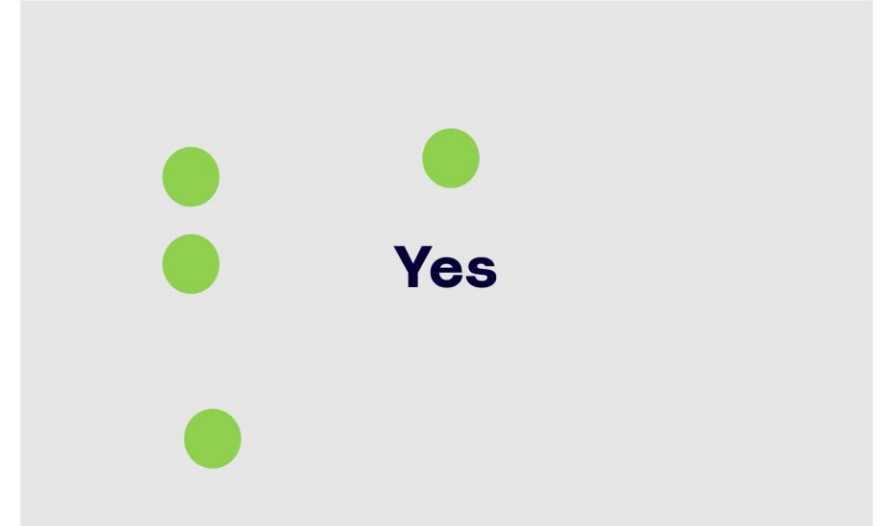
There are several MEPs that exist in London already.

The new portal will not compete with active platforms, such as Globechain, Enviromate, Enfield Excess Material Exchange...

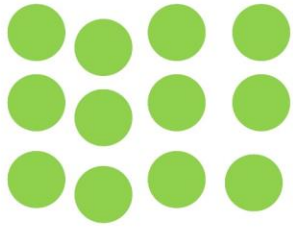
Instead, it will act as an 'aggregator' and compile all listings, linking to the existing platforms and thereby increasing visibility of listings and activity in the secondhand market.

Have you used an MEP before?

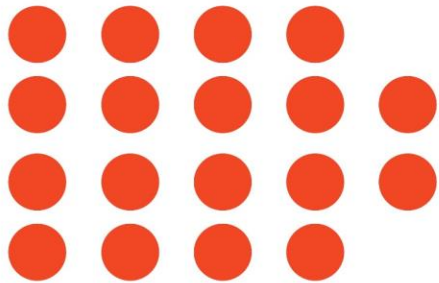
If yes, click and drag one of the **green dots to the YES** space to the right. If no, click and drag one of the **red dots to the NO** space.



What do you like about the websites?



What do you dislike?



Click and drag the green and red dots to vote. Double click a sticky note and type your own reasons - don't forget to add a red or green 'dot' after

Functions

- Provide delivery service options / partners
- Give a carbon/circular/sustainability info against each item
- Ability to review seller profiles (like Amazon and Trust Pilot)
- Compare characteristics of items from different websites
- Find the best price for an item
- Reach the greatest amount of prospective buyers
- Enter items for disposal/sale
- Add location/quantity/time scale
- Quality/photo

Search capability

- Compare similar items
- Getting accurate results
- Filter for specific items
- Use the search bar to search for specific items
- get an idea of prices quickly
- Filter by region (location-based search function)
- All items available in one place

Login/Account

- Create a username and password to allow me to create a profile
- Receive email notifications about items I am interested in
- Too many advertising emails
-
-

Layout/Look

- Clear homepage with the main function being a search bar & location
- Easy to access from a mobile
- easy to read - clear text and obvious place to click to get more info
- Consistency of graphics makes searching easier
- Getting a quick overview of all the key information

Other

- Carbon values should be provided with equivalent familiar figures (eg/ same amount of CO2e as heating 100 homes) to give context to large numbers
- Include embodied carbon saving quantity next to material to help influence material decisions
- Loading screens
- Showcase organisations being aggregated
- only have to put info in once to access multiple site
- Trust and security. For instance, prefer to speak to a person/agent
- see score reviews of products/providers
- Easy way of contacting sellers

MATERIAL SEEKERS

What are some key words that people searching for materials might use?

RICS New Rules of Measurement (NRM)	Georgian double doors	mid-century	Reuse/RFO/How to reduce embodied carbon
raw materials	'Fire' Rated 'IP65' light fitting	second hand	Material type e.g. steel, concrete, timber
Salvaged	Type of use (structural/non-structural, interior/external, environmental conditions, etc)	Reused	Reclaimed materials
Service life	Reuse/recycling potential	Sector it came from (e.g. Construction, fit out)	

What sort of attributes (information, data) are you looking for in the materials you would buy?

Quality/condition	Application	quantity (m2, tonnes, m3, unit of items)	Information needs to be specific, pure volumes are no use, taking the example of steel beams you'd want to know individual lengths/size
Age (stylistic period)	Location	Name of manufacturer (if known)	Contaminants
Provenance	Certification	Material-specific dimensions	EPDs if known/established products
Colour	Use history (contamination, damage, etc)	Location - can it be delivered, when is it available	is there a clear classification of 'wear & tear' eg materials to be used where they will be seen vs aesthetics required if being used unseen - such as Rebuild project classification
Maintenance approaches			

How would you likely access the MEP? (Please use the dots to vote)



At home 1 dot	In the office 5 dots	On site 0 dots
On a desktop computer 3 dots	On a mobile phone 2 dots	

MATERIAL SELLERS

What are the most important factors when choosing where to list materials?

What sort of attributes (information, data) do you have available about the materials you would sell?

How would you likely access the MEP?
(Please use the dots to vote)

Ease of use	likelihood of a successful transaction (e.g. a more reliable audience)	Cost e.g. a free platform	Customer reach
Reach a wider audience	Location it serves	Quantity	Integrity of site
Option to attach pics	Insurance	Reliability of platform	Can you get any data back about your listed products?
Logistical capabilities	Ability to forecast	number of companies/people registered (exposure to potential customers)	Integration with Excel/csv file

Date by which it needs to be picked up	Dimension/quantity	Current application	Volume/mass
Location	ESG data	Concrete cement ratio	Comparison to cost of new
Associated carbon cost	Manufacture, Product Codes	EPD	Load carrying capacity
Expected service life remaining			

At home

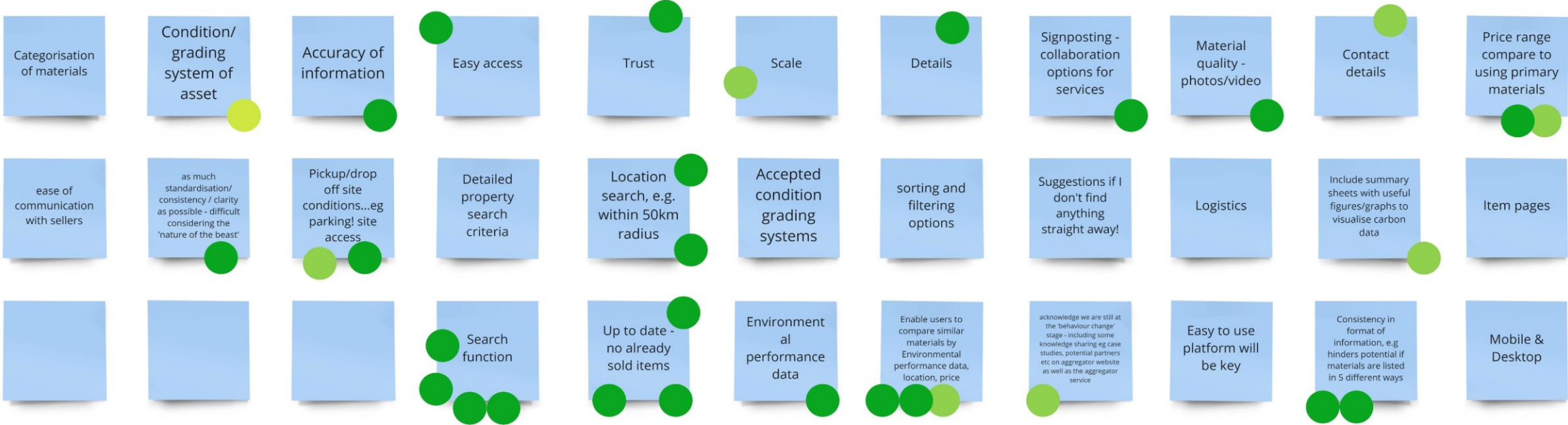
In the office

On site

On a desktop computer

On a mobile phone

How might we best design the MEP for success? What should we include?



Voting



Next Steps: Starting to build the Materials Exchange Platform

- ✓ Design User Journey Maps
- ✓ Begin technical research to integrate with existing portals
- ✓ Design wireframes for the platform
- ✓ Usability testing of wireframes

Would you be interested in testing the wireframe design of the new platform?

Jason
(Tracouk)

Ben
Gur

Phil
(simple
works)

Maria

A
Mansouri

Andrew
(tracouk)

Purva
Tavri

Flavie

Adam

Wei
Lee

Morgan

