IMP0606 Project Avatar Discussion Guide #3

Objective-

- ***Establish reactions to the bespoke customer service solution(s)***
- ***Discover improvements that could be made to the bespoke customer service solution(s) to enhance its/their acceptability and appeal***
- ***Test hypotheses in relation to the customer segments most likely to benefit from the solution(s)***

GROUP STRUCTURE (1½ HOURS):

AREA OF DISCUSSION	TIME ALLOCATION	START TIME
1. Introduction	1	
2. Reminder last week's discussion	5	
3. Current situation vs. how things could change in the future	15	
4. Blue sky future vision: Prototype 1	20	
5. Blue sky future vision: Prototype 2	25	
6. Blue sky future vision: Prototype 3	20	
7. Wrap up	5	

1 Moderator Introduction (1 minutes):

- Re-introduce yourself
- Confidentiality is guaranteed, no right / wrong answers, interested in everybody's opinions, in as much detail as possible

2. Reminder last week's session

- What were the **key things you remember** regarding the last session?
- **READ OUT**: I have talked to you and other groups around the region and although there are a range of opinions, the general consensus is that data is already commonly being shared and mined to provide additional services to customers. This research is allowing Electricity North West to establish if its customers would be accepting of it using advanced technologies that tap into this data, to improve its services – such as the examples in **SHOWCARD A**
- **READ OUT**: The general consensus has also been that you anticipate this type of data sharing and mining will happen even more in the future. Whilst you feel there are benefits to this happening, it is important for you give your explicit consent, i.e. effectively '**opt-in'** and retain a sense of **control** over who uses the information and what it's used for, ***is this an accurate representation of how you feel***?

- **READ OUT:** In the previous sessions you said receiving **'push'** communications as a result of sharing your data is a positive benefit, so I would like to explore different types of **push communications** today.

3) Current situation vs. how things could change in the future (short term)

- I would like to recap on your understanding of what Electricity North West does/ its role:
  - What are the different **reasons** customers may contact ENWL?
  - What communication **channels** do you expect are currently available to initiate contact?

USE SHOWCARD B IF REQUIRED TO CLARIFY ENWL'S ROLE AND CURRENT COMMS CHANNELS

READ OUT: In the future ENWL will automatically ask all customers who contact them, for any reason, for their consent to issue **push notifications** to their mobile devices and they may even have arrangements with mobile operators to push notifications to all mobiles connected to cell sites in a region affected by a power cut.

- A reaction as to how they feel about this arrangement/service? Is this perceived as a benefit?
- Is this acceptable? If not, what reassurance would they need to accept this?

READ OUT AND THEN DEMO FUNCTIONALITY APP ON I PADS:

Electricity North West could *use or develop existing technology* to improve the services provided to its customers. Here is an example. '**Flight radar**' app technologies, which allow you to pan in to any area of the world and click on any flight, from any airline to instantaneously see all of its details i.e. the plane type and flight number, its route, flying speed, height and landing times etc. You can also use this app to point to any area of the sky and it will pick up any plane that's overhead, in that direction.

- Thinking back to the reasons customers typically contact Electricity North West, how could they make use of this type of technology?

READ OUT: DNO's could potentially harness this type of technology, allowing customers to point their smart phone at:

- An excavation and instantaneously receive information back about the reason for the works, when the hole is due to be filled in, then be automatically notified when the tidy-up is completed and disruption has stopped.
- Customers could similarly use this type of technology to report any number of issues, for example vandalism or rubbish at a substation. This technology could just pick up your GPS location, like the Flight

Radar App. This could give you various updates from initial investigation through to completion and even provide photographs when the work has been completed.

- Reaction to this method of pointing, clicking and then receiving push notifications?
- What would the benefits be?
    - How would it make customers' lives easier?
        - Who would this appeal to and why?
- Are any problems foreseen?

I have some additional examples of current and future communication scenarios to share with you.

SHOWCARD C: LET'S CONSIDER HOW APPOINTMENTS MAY WORK IN THE FUTURE:

INTRODUCTION:

Currently you can order something this evening from Amazon Prime, verbally using your Echo, automatically pay by your preferred payment method and select a delivery slot, to within 1 hour on the following day. The delivery driver physically cannot deliver the parcel outside that timeslot because the system will not allow the parcel to scan.

- Are you familiar with using services like this? e.g. express delivery or courier services, Amazon Prime, Car MOT, Uber, supermarket shopping
    - How do you appraise this service (positive/ negative) vs. traditional methods such as calling to find out when an engineer will be attending?
- Would you like to be able to track engineers that are on their way or have arrived on site?
- How much do you value a defined appointment time for non-emergency work, which can be scheduled?
    - What does this defined appointment time look like (1 hour, 2 hour slot etc.)
    - *When* would you be more likely to track engineers or work?
        - Longer power cuts? If they feel vulnerable? If you are having connection work being carried out (you may not necessarily be on site and want to check on progress)

SHOWCARD D: AUTOMATED GUARANTEED STANDARDS PAYMENTS

Electricity North West has to meet certain standards of service. For example customers are entitled to a payment if they have had a power cut that lasts longer than 12 hours in certain circumstances.

If you think that ENWL have failed to meet a guaranteed standard of service, you can contact them using traditional methods or complete and submit an online form. A team will investigate and if you qualify they will send you a payment.

In the future, fully integrated autonomous (robotic) systems will be able to identify failures in standard and instantaneously make an automatic payment without any need for a claim, where they have the customers' details.

- [**Related to SHOWCARD C**] **Explore the appeal of** receiving a push notification to advise you that a payment is due
    - How would you expect the payment to be made – would you be prepared to provide bank details or PayPal details?
    - Pros/ cons of this approach?
- How does this compare to the traditional method of calling ENWL or filling in an online form?
- Would this increase the volume of payments that ENWL made to customers where it has failed to meet one of its guarantees? *Some customers do not currently claim for compensation when it is owed.*

SHOWCARD E: KEEPING CARS AND DEVICES CHARGED

- Do customers expect there will be appetite in the future for a service that 'pushes' information to EV drivers, based on the GPS location of their vehicle – so for example you may have power at home or at your place of work but if you are travelling long distances and will need to charge on route – do you need to know where there may be problems?
    - Where there are network constraints that mean EV charging points have been turned off or down, making it much slower or impossible to charge your vehicle at certain times?
    - Suggest alternative charging points based on nearest location/ where is cheapest/ queuing times?
    - What **other support services** for EV users would be beneficial?

- Do customers expect that in the future, every ENWL van will be equipped with a battery, able to speed charge multiple smart devices, so those affected by a power cut can charge these locally?
    - How would customers expect ENWL to notify them about this kind of service?
    - Would knowing that you could charge your devices, therefore pass and receive information to ENWL help reduce the impact of the power cut / improve your general satisfaction?

4) BLUE SKY FUTURE VISION – NOW LET'S THINK ABOUT WHAT MIGHT BE HAPPENING IN 10 YEARS TIME

SHOWCARD F: Recap on Brenda's home- ***acknowledge that not all homes/businesses will be smart enabled in the next 10 years or longer.***

READ OUT: We've been listening to what you and our other groups have been saying in the previous sessions about your customer service needs and ENWL have built **three bespoke prototypes** that all work together. I am going to talk you through the prototypes *one by one* and demonstrate:

- What information might be available to you in the future
- How the information is likely to be communicated to you

Remember these are only prototypes to help give you a feel for what might be available in the future – **so bear in mind that they are still very clunky and don't represent anything like how the fully developed technologies might appear.**

Prototype 1

READ OUT: The first prototype is something that you may have in your home in the future and you can connect to from your smart phone, a central hub such as an Echo, Apple Home Pod or Google Home, or possibly holograms or immersive technologies. This is probably what the next generation of HIVE or NEST technologies will look like. **This isn't the type of technology that DNO's will develop but they are likely to want to tap into these platforms for both network and customer benefits**. Remember you will have control over who sees your personal data and how it is used.

MODERATOR: Guide the ECP through its functionality:

Homepage 'My Smart Energy Hub'– the prototype can be demonstrated via different types of homes. Each home gives a view of what typical electricity usage might look like for an average customer living in that kind of property in the future.

- 1st screen: The various rooms in '**House 1**'
    - The size of the circles correlate with the amount of energy being used by each room, the bigger the circle, the more electricity being used.
- Click on a room e.g. 'Utility' to view consumption on a room by room basis
- Click on a device to see exactly how much electricity each appliance is using at any given time in both units and cost

REACTION TO PROTOTYPE 1:

- What do you think of the prototype?
- What problems, *if any*, will it solve? (i.e. what is the prototype trying to achieve?)
- Would it make customers' lives easier?
    - Who would this appeal to and why?

READ OUT: Some of you with Smart Meters said previously that the novelty of knowing what you are using quickly wore off and after a few weeks you didn't pay much attention, so whilst it's interesting to know how much your bills are costing it didn't necessary change your behaviour or reduce your consumption.

- Now that you have seen this prototype, do you think it could **change your behaviour**? Why/ why not?
- Do you think the extra information provided by the prototype (vs. traditional smart meters) would help you make decisions about what you use?
- How do you think different types of customers may use this information, such as a vulnerable customer?
- How could the prototype be improved?
    - Why is this important to you?

READ OUT: We've previously spoken about the enhanced services that the DNO could potentially offer if it had sight of your information in the future. **Based on this prototype, do you think you would share this kind of data if it would?**

- Enable Electricity North West to contact you proactively? **Yes/No**
- Ensure that the network was better managed to prevent you having power cuts **Yes/No**
- Make it easier to connect a new electricity supply to the network **Yes/No**
- Automatically optimise your unique demand/generation and storage arrangements? **Yes/No**
- Was financially beneficial – i.e. allows you to make savings or earn income from helping the DNO manage the network using your excess power **Yes/No**

TEST APPEAL OF THE FOLLOWING IMPROVEMENTS [SHOWCARD PACK G] AND TALK THROUGH THEM AS A GROUP:

A. Would you like to know the **carbon emissions** associated with your devices (real time or historical data) so you are aware of your own carbon footprint?
B. Would you like the platform to '**push notifications'** to you if it **detects** that you could be using your energy/ balancing your usage/generation/storage more **efficiently?**
C. Would you like the platform to automatically link to **local weather information** to optimise your generation and storage of energy based on the weather conditions?
D. Would you like the platform to **flag up potential problems** with your electricity supply e.g. warning of unusually low/ high usage or unusually low/high voltage? ENWL would monitor the power remotely to save you the inconvenience and notify you automatically what they are doing to resolve the problem.
E. Would you like the platform to offer you different '**operating modes'** such as:

- **Manual** mode: user retains full control of all devices at all times
- **Holiday** mode: platform can control devices e.g. as turning on selected lighting to improve security
- **Low cost** mode: platform can control devices e.g. Set/delay when things are used/ charged to reduce costs and maximise your generation revenue
- **Semi-autonomous mode:** platform that continuously learns from your behaviours and operates your equipment and charging needs based on your usual requirements to optimise your unique demand/generation/storage and export arrangements
- **Full Intervention mode**: A fully autonomous platform which reacts to your behaviours and changing external circumstances e.g. changing when your electric vehicle is charged before a planned power cut occurs.

N.B. You would be able to take back control at any stage and overrule the decisions that the platform has made for you, whilst retaining unrestricted access to power to carry out the activities you want to at the time that you want to.

MODERATOR ASK THE GROUP TO PROVIDE FEEDBACK ON THE IMPROVEMENTS [SHOWCARD H]

Which of the options A-E is the most….

- Acceptable?
- Relevant?
- Credible?

- What else can be done to make the idea more credible/ people more likely to opt-in to using it or sharing information collected by it?
- Is there anything else that we've not thought of that you would want it to do?

Prototype 2

READ OUT: The second prototype is something that you may **also** be able to access in your home through your smart phone, central hub such as an Echo, Google Home, Apple Pod, or possibly **holograms or immersive technologies**.

READ OUT: This prototype is a Chatbot; a web technology that enables responses to be made based on keywords used by customers through voice recognition or instant messaging. They give the appearance of a personal interaction without there being any human involvement. This type of system is already becoming quite well established, particularly in the banking and financial sectors. Whilst it's currently in its infancy (think of

Alexa) within the next couple of years the voice interaction is likely to be almost indistinguishable from human speech.

Examples of Chatbots (Provide a couple of examples to the ECP)

Power bot. Understand why your power has been turned off and when it will be coming back on.
Weather bot. Get the weather whenever you ask.
Grocery bot. Help me pick out and order groceries for the week.
News bot. Ask it to tell you whenever something interesting happens.
Life advice bot. I'll tell it my problems and it helps me think of solutions.
Personal finance bot. It helps me manage my money better.
Scheduling bot. It helps me get the next possible doctor's appointment at my local surgery.

In the last sessions you told us how frustrating it can be trying to find telephone numbers on company websites and when you try to speak to someone, having to go through multiple menu options before you eventually get through. If these cognitive AI systems could allow you to immediately make contact or receive proactive push notifications without waiting times and enable large volumes of customers to simultaneously have different conversation with what for all intents and purposes sounds like an empathetic human, which could give quick and accurate responses how would you feel?

- Is this acceptable? Appealing? Credible?

DNOs are already starting to investigate this type of technology [**SHOWCARD I]** and if Electricity North West offered Chatbot,

- Would you consider using it to make contact?
- Would you be averse to making contact?

MODERATOR TO DEMO VOICE COMMAND AND ALSO TEXT INPUT. Remember this is just a prototype – you would be speaking without hitting the microphone key and receiving an instantaneous verbal response. The pre-prepared responses that you see here are just for demonstration purposes. Remember that Chatbots are continuously learning and when these technologies are fully integrated, will respond appropriately to the questions that you ask.

Let's imagine that your electricity supply has suddenly been interrupted, without any warning, its winter, it's already dark and causes you significant inconvenience. This scenario gives you some idea of the type of communication that you might have with ENWLs Chatbot in the future.

Irrespective of the number of faults on the network you would be able to make immediate contact, even when there were major storms or floods without getting a message or having to hold to speak to an operator.

This example assumes that you have reactively made contact but if ENWL had your contact details its Chatbot would automatically proactively have pushed a notification to your mobile devices or smart home hub, as soon as Smart Meters started sending alarms that supplies had been interrupted. We expect this would occur almost instantaneously. Remember, we said earlier that there could even have arrangements with mobile operators to push notifications to all mobiles connected to cell sites in a region affected by a power cut.

Scenario 3 - Reactive response following a Supply Interruption

DEMO THE SCENARIO LIVE BY RESPONDING TO THE CHATBOT

- In this example Electricity North West ask a number of questions to identify the customer - Would you be prepared to share your contact details with Electricity North West, to receive push notifications to automatically receive advice and be kept updated about both planned and unplanned power cuts?
    - Even if it already knows that you are the registered user, would you still expect there to be some control function that asks you to confirm your identity before it starts pushing out information?
- Reaction to the opt-in questions regarding access to the smart hub?
    - Would customers permit access in this instance? Why? Why not?
- Reaction to the Chatbot confirming that your neighbours are without power (post opt-in)?
- What would the benefits of this service be?
    - How would it make customers' lives easier?
        - Who would this appeal to and why?
- Would you feel comfortable talking to the chat bot and asking questions? E.g. asking for more assistance
    - Would you care, as long as you got quick and accurate information?
    - In 10 years time, do you think you will even know that you are communicating with a learning machine?
- **What else would you want to ask/ expect the Chatbot to do for you? Ask for ideas then probe:**
        - Send an audit trail of your conversation and the fault number to a preferred email address and/or back it up to the cloud automatically?
        - Notify a nominated friend/family member of the unplanned interruption?

- Talk to you during the interruption to see if you are managing without power?
- Play you short video messages from engineers at on site with updates on how they are getting on with fixing the fault or as we mentioned in a previous session send you a link to drone footage to give you an indication of for example downed power lines(is seeing believing?)
- Notify you if ENWL send out a catering van, where you could get hot food and drinks or alternatively send you a bar or QR code enabling you to get a free drink/meal at a local restaurant if the repair was going to take a long time?
    - Do you think that this could be open to abuse – is just sending a catering van like we do at present more open to abuse than sending a secure code?
- Notify you of the nearest charging point for your electric vehicle or mobile devices?
- Notify you that you were entitled to a payment if ENWL had failed to meet one of its Guaranteed Standards when dealing with the fault or even make that payment automatically by your preferred method?
- Would you be willing to provide your bank details for a direct transfer if you were confident that the platform was secure?
- Link you to a short video that you could play on your mobile device or potentially your home hub to give you advice about what to do in a power cut?

- **<u>Acceptability of data sharing to provide this additional service for vulnerable customers?</u>**
    - Test: Chatbot **automatically** contacting a nominated relative?
    - Test: Chatbot contacting a healthcare provider where there is a medical need?
- How could the service be improved further to assist vulnerable customers?
    - E.g. signposting customers with specific needs to third parties like charities/ advice
- Thinking of an elderly person or a person with complex medical needs or learning difficulties, do you think that these vulnerable members of the community, who may feel comfortable talking to a person, would be comfortable interacting with a Chatbot or asking for more assistance?
- If a Chatbot allows a vulnerable customer to receive quick, clear and accurate verbal information and the response is very similar to a human interaction, would that be an improvement on services they may receive today? – Probe on:
    - Empathetic human contact and decisions made individually based on personal circumstances vs traditional methods:
        - holding to speak to an operator
        - Being transferred around a business to the most appropriate personnel
        - Navigating the web, email, live chat and webforms
- Would you permit the Chatbot to update your calendar for you?

- Would you permit the Chatbot to communicate with your devices to for example change your energy over to storage for the duration of the power cut?
- Perception of the breadth/ depth of information given – what extra information might you expect
    - What else would you want to ask/ expect the Chatbot to do for you?
- How else could this Chatbot service be improved?
    - **Think about the language and communication needs of different customers?**

There are countless scenarios we could have included about the types of conversations that Electricity North West currently have with its customers and 5 other common situation and likely conversations have been mapped on the prototype but based on this scenario…

- Overall perception – positive/ negative?
- Would you value receiving this type of information on this type of platform?

Prototype 3

READ OUT: The third, and final prototype, demonstrates the kind of changes that Electricity North West will need to make to its control systems to manage the changing needs of its customers. This prototype gives you an indication of what Electricity North West's staff will be able to see from the office and on their mobile devices when out on site. **Some elements of this prototype will also be available for you to access from your home, business or mobile devices.**

Think of this prototype as the **central nervous system**. Its purpose is to enable ENWL to receive information about any kind of network activity and push out accurate information to customers. It will interface with the two prototypes you've just seen and every other ENWL system. So all ENWL staff have 'real time' visibility of everything that's happening on its network.

READ OUT: I would like to show you a short video which talks about the need for ENWL to have a greater visibility over its network and what it is aiming for in the future.
PLAY VIDEO: https://www.youtube.com/watch?v=jhkOJz2mYTQ (0.58 – 2.30 mins)

READ OUT In this video you have seen a glimpse of the advanced network management systems already in place at ENWL, which provide their staff with real time overview of power cuts and other events. This control system allows ENWL to deal with network problems quickly and feeds information into the systems that keep customers informed about when electricity will be restored during a power cut. It also updates their website, so

customers can get information on the move or when they can't use their landline **SHOWCARD J LIVE POWER CUT MAP**. However, as you heard, with the changing landscape in the electricity industry it needs to make changes to its control systems and have even greater visibility, in order to meet all of its customers' future needs.

SHOWCARD K DETAILED NETWORD DIAGRAM

This gives us an idea of just how complex ENWL's network is; every asset is plotted and ENWL know how every cable interconnects with the rest of the network. They know the location of every cable and overhead line, its size, and what properties are served by it. ENWL's systems instantly recognise when faults have occurred on its high voltage networks and it can restore electricity automatically or remotely from its control centre. It can't yet do this with local faults.

READ OUT: Remember that this is a prototype and therefore it is a more basic version than ENWL would develop in reality. It might be helpful to imagine it including the assets, cables and overhead lines, overlaid with information shown in the other two prototypes. This system is essentially a nerve centre, it will continuously monitor all network activity. **It will be fully automated and need minimal human interference, and will also drive the Chatbot that we looked at earlier.**

DEMO PROTOTYPE 3: MODERTOR TO GUIDE ECP THROUGH ITS USABILITY

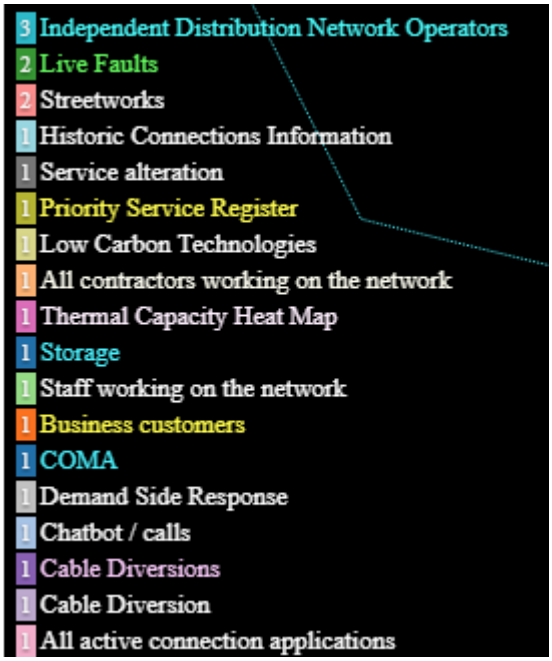
✓ Here we can see just and outline of the ENWL region, but we can zoom in to get a more localized view. The user would be able to select a view to show them as much or as little information as they required.

✓ The mapping system will continuously monitor all electricity usage and generation on every circuit to ensure that there is enough energy to meet the demands of every customer.

✓ Each coloured dot represents a different service element (explain a selection of them e.g. street works, the volumes of Chatbot/calls being received in a particular area, and the position of new connections.

At a touch of the screen we can see where there are power cuts, different kinds of planned works (for example we could see where we had switched out power lines, specifically to cut back trees or where we are installing new substations). **Some of this information would be restricted and only available to ENWL staff, some information may be publically available and other information would be available via a secure login and password, for example the status of your connection.**

USE SHOWCARD L TO DEMONSTRATE HOW THE PROTOTYPE COULD LOOK FROM AN ENWL PERSPECTIVE



Smart meter data will be continuously monitored, meaning that every power cut, even those on local networks, or affecting just one property cut can be identified very quickly. Every engineer and their activities will be tracked meaning the system will make automatic decisions to send the right engineer to where they are needed, ensuring electricity is restored quickly and the work force is efficient. It will also automatically manage and send the right equipment and materials out to site and notify the local authority when we need to dig because it will interface with all of these systems**.**

REACTION TO PROTOTYPE 3:

- **What do you think of the prototype?**
- **What words would the ECP use to describe this prototype?**
    - **If they went home and explained what it is to their partner,** what would they say?
- What problems, *if any*, will it solve? (I.e. what is the prototype trying to achieve?)
- Would it make customers' lives easier? How? Who?
- Is it obvious how the prototype interacts with the previous two prototypes?
- Now that you have seen it, is it *not* showing you something you would visually like to see?
    - What else would you like to see mapped!?

TEST APPEAL OF THE FOLLOWING (ADDITIONAL) MAPPING IDEAS

- If you had to apply for a new connection do you think that it would be helpful to see the loading \capacity) of specific areas of the network to assist you in understanding the cost implication associated with connecting in particular areas.
- System could issue **'push notifications'** based on algorithms of historic weather and fault data to provide a % probability of a fault in your regions linked to forecasted weather conditions
- A visual representation of where ENWL is investing in the network/ conducting maintenance
- Automatically see real-time updates on a power cut from ENWL and all the social media feeds linked to a particular event
- Track engineers are who are attending a power cut or attending an appointment to monitor their response time or expected time of arrival
- View all current and planned excavations works where roadwork permits have been granted
    - See any roadworks and diversions in your area, or the area you are travelling to
- See network constraints in areas you are travelling to where you may have problems charging your EV

ALSO TEST: What about having access to historical data such as:

- A visual representation of areas experiencing above/ below average power cuts (*perhaps you are considering moving property)*
    - Would you expect this type of information to be readily available on this platform via some form of search engine or would you expect to have to request it from ENWL?

MODERATOR ASK THE GROUP TO PROVIDE FEEDBACK ON THE IMPROVEMENTS:

Which of the additional options are the most:

- Acceptable?
- Relevant?
- Credible?
- Then probe on the rationale for the most/least appealing: why will it make customers' lives easier?
- Who will find the additional development the most relevant (useful) and why prompt on different kinds of customer?
- What else can be done to make the idea more credible/people more likely to opt-in to accessing the elements that would be available for them to view?

Overall

- **Would you want to see this or does just knowing that the network is so closely managed provide confidence?**
- Have we missed anything?

Overall

- Overall impressions of the three prototypes we have shown you today?
- Providing you give your explicit consent, i.e. effectively 'opt-in' and retain a sense of control over who uses the information and what it's used for, do you find the prototypes acceptable?
- Do you recognise the long term benefits /potential adoption of these technologies by future generations (even if you don't necessarily want or indeed visualise adopting /using them yourselves)?

Moderator brief:

If the ECP appears to be reticent at any stage of the evening about how their data is being used / the acceptability of the prototypes

- Do you see your digital identity as 'currency'
- Does this therefore make you reticent to share your data
    - Why is this? (Is it that they might be giving something of value away)?