



REfurbishment as Manufacturing Industry REMI Project

13 July 2016

REMI – Product Delivery Process

M3.2 Deliverable

Success in delivering any product will relate to ensuring each of the delivery partners and end customer are Informed, Engaged and Consulted to ensure successful delivery is achieved i.e. the right product is delivered in the agreed timeframe by the right contractor to the right home, meets the right performance and quality specifications, provides the right solution for end customer at the right cost for the client/end user.

Traditionally, within social housing refurbishment the roles between client (Landlord) and contractor (supply chain) are distinctly defined with the customer (tenant) having a lesser role in this process i.e. they accepting what is applied to their 'home'. The additional complication is the social landlord not having direct benefit (ability to increase rent or take a proportion of energy bill saving) or being able to quantify any in-direct benefit (reduction in rent arrears or lower response repairs (mould/condensation repair) costs which the refurbishment solution may provide. This approach is traditionally led by the client adopting a leading role in identifying properties based upon unreliable stock data, selecting a 'solution' with limited and un-warranted long term performance benefits, defining a specification which aims to be applicable to a range of property archetypes from a limited range of 'ready-made' options, all aiming to achieve the lowest delivery cost for best (short-term) solution. This is usually delivered by a supply chain which produces 'tried and tested' ('off-the-shelf') products with limited improvement to meet customer's long term needs and aspirations, and aims to mitigate any 'performance or delivery' risk through increased cost. The resultant is a product not being the best option or solution for the property being refurbished. In addition, the customer does not fully benefit from the refurbishment in terms of reduced energy bills or understanding in how to maximise the benefits of the refurbishment solution. This traditional process is outlined in **Figure 1**.

In reviewing this delivery process the REMI project team has looked at 'manufacturing' delivery processes as a means of changing the way we think about how we deliver property refurbishment solutions in order to ensure solution, performance, quality, cost and satisfaction are all fully considered and achieved to meet all partners' requirements. This has also been extended to reviewing the roles of each of the partners involved and identifying who is best positioned (knowledge, capability, capacity, etc.) to lead sections of the delivery process. This approach was acknowledged as going against convention in our (Social Housing) sector; however, since property refurbishment has not changed in the form of delivery for many years and in order to regain and build confidence by the client (i.e. social or private landlord or private home owner), achieve our national carbon reduction targets, reduce fuel poverty and deliver community wide refurbishment solutions, we need to challenge both the client and supply chain learning from other industries and to adapt and change both product and delivery processes. This will result in greater product take-up, increased economic growth and new product development. Consequently, the

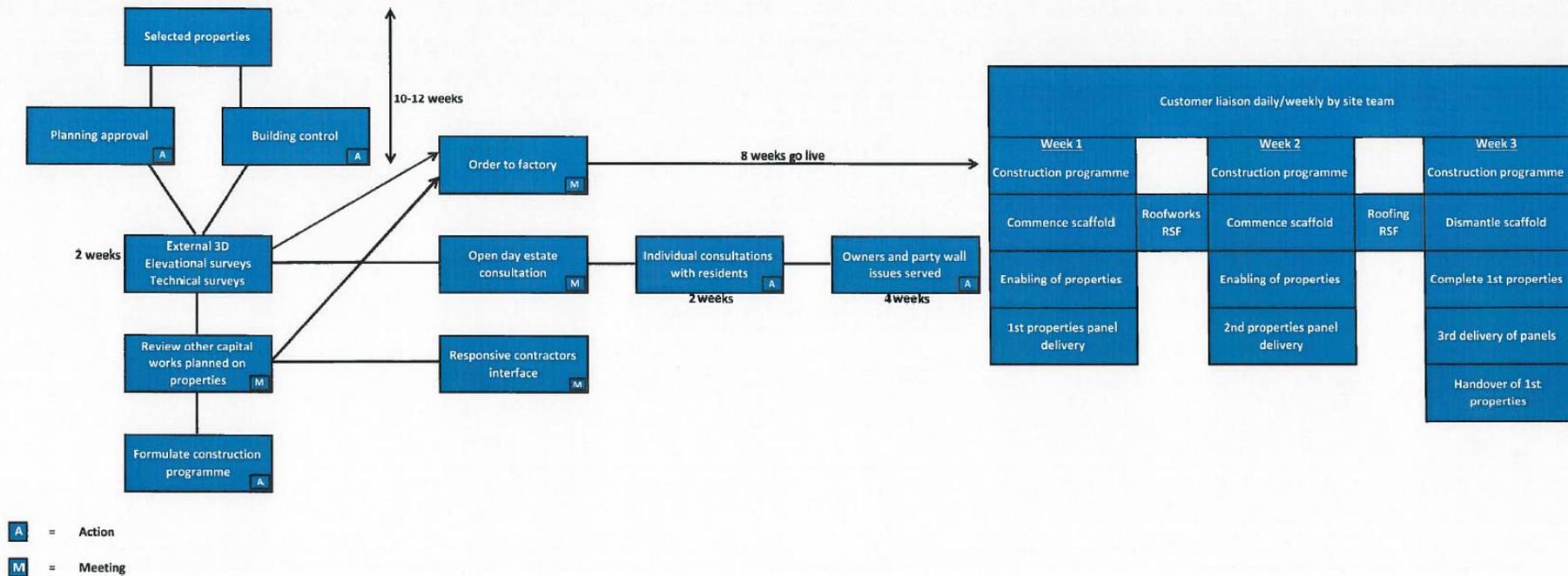
proposed methodology recommended by the REMI project team, to be adopted is for the property owner to define the performance (energy, timescales, quality) and cost parameters in which the product is to be delivered, allowing the supplier to select the most appropriate design, materials and technology including method of manufacture to achieve these critical 'product' outcomes.

In considering this approach for property refurbishment we identified key elements which the product must aim to achieve namely:

- Performance:
 - Thermal performance (U-value) of building fabric components;
 - Energy consumption – KWh/annum guaranteed/reduced = affordability
 - Comfort – minimum home heating standards (21C) and home environment i.e. humidity, air quality, noise;
 - Long-term performance.
- Specification:
 - Supplier to identify the best solution/s through design, materials, technology to achieve performance outcomes.
 - Commissioning / handover / early use support (energy plan) / education (training for staff and building occupants).
- Quality:
 - PAS2030;
 - Long term warranties/accreditation;
 - Manufacturing process;
 - On-site delivery/construction process;
 - Long-term maintenance requirements;
 - Skills and resource capability requirements.
- Cost
 - Product (capital) cost – estimated/actual;
 - End-user cost – estimated/actual energy bills – reduced;
 - Capital cost supplements – Energy Plan, incentives (FIT/RHI);
 - Manufacturing and on-site delivery process.
- Customer satisfaction
 - Satisfaction of product – improved home, home environment, reduce energy bills, improved health & well-being, pride in community;
 - Satisfaction of delivery process;
 - Satisfaction of product/delivery partners;
 - Satisfaction in ability to afford to live in home;
 - Satisfaction in maximising the benefits of the solutions provided.

By defining these key elements we considered we would be better placed to agree which partner (client or supplier) should take ownership and ultimate delivery.

Delivery Process Requirements



Assuming all properties have received structural surveys

All CDM and F10 information received

Figure 1 – Best practice delivery process

The success of any product will relate to consumer’s need and ability to satisfy their aspirations - how it makes them feel and is perceived by friends and family, and whether it provides value for money. The marketing of these benefits is key to successful delivery. The difficulty for home refurbishment products is in the supplier producing a product which meets these criteria. Home energy refurbishment is not seen as ‘exciting’, essential and a ‘must have’ product. This is due to high cost of ‘home energy refurbishment’, lack of long term ‘performance’ guarantees, fail in adequately informing the consumer how to understand benefits of home energy refurbishment; consequently most of home refurbishment solutions are unsuccessful into gaining the necessary economies of scale failing thus to engage and build consumer’s confidence and interest. Importantly the ‘perceived’ product capital cost along with the limited finance packages available and difficulty in identifying future direct or indirect cost savings through reduced maintenance costs, fuel bills or increased property ‘market’ valuation fail to provide sufficient and robust marketing material. The Project Team recognises that, in order to provide this confidence and engagement, it is necessary to deliver a successful consumer’s journey.

In developing a Product Delivery Plan, an essential element will be a Communications Plan which would define the roles and responsibilities of each of the partners involved including customer receiving the product, and importantly defining the key marketing messages to ensure consumer engagement. This should include the process for identifying the ‘right homes’ to receive the most appropriate product (i.e. Energiesprong) collating a range of information from the client and customer (i.e. property construction type, volume, age, condition, location, density, energy bills).

Tenant or general consumer communication strategy is described in **Figure 2** and will involve engaging, consulting and informing the consumer (tenant) to ensure they fully understand the impact and benefits upon them and their ‘home’ in delivery of the product. Who delivers these key ‘consumer’ messages should be based upon the most appropriate delivery team member best able to deliver the message/s.

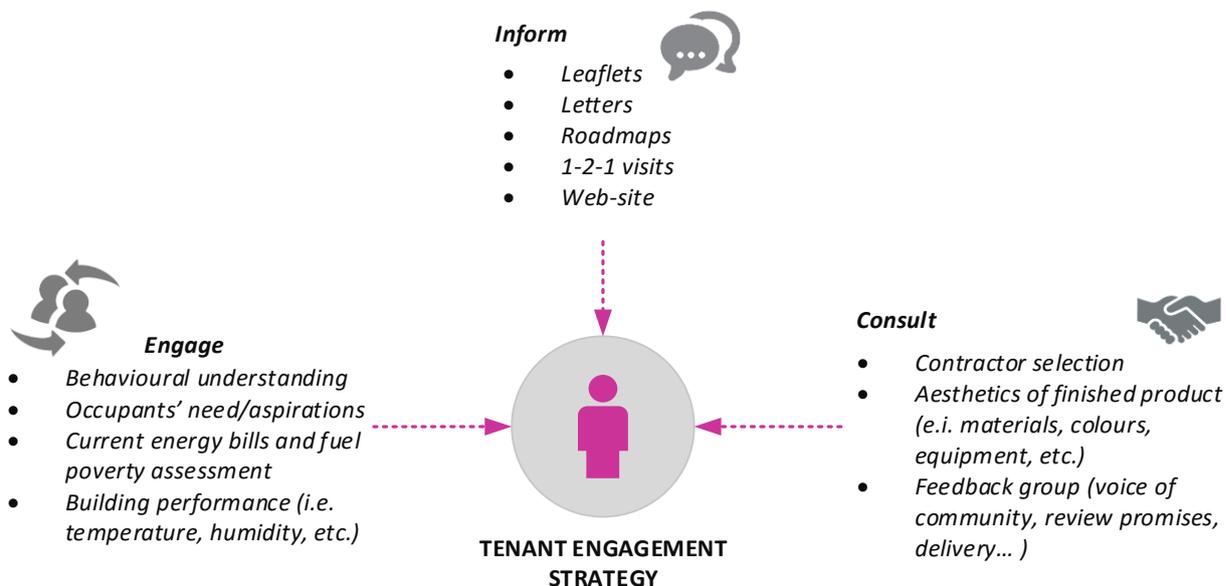


Figure 2 – Communication. Tenant Engagement Strategy

An essential part of this delivery process is the collation of data to make the most informed decision of which property is to be refurbished with the most appropriate product. This is described in **Figure 3** and will involve obtaining property stock and ‘energy performance’ data from the client (property owner) and

consumption/bill data from the home occupants, but without raising occupant expectations in work being proposed.

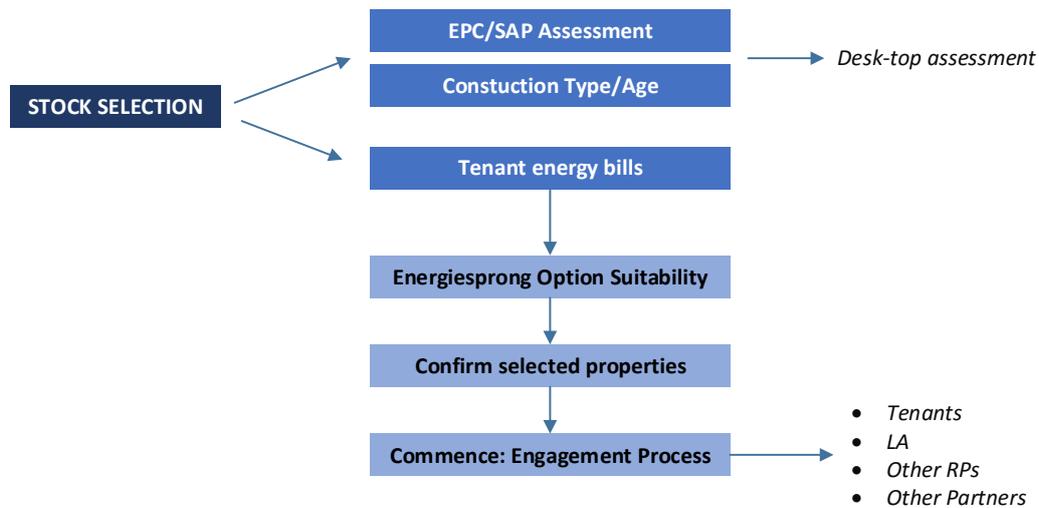


Figure 3 – Delivery Process Requirements.

This will also require the property owner to define the allowable cost parameters and the minimum performance standards to be achieved, enabling the supplier to identify the best solution and delivery options. This data review may also result in the performance and cost parameters being optimised by joint consultation between the property owner and supplier to achieve an agreeable outcome. This element of the process will also involve identifying key stakeholders to support and help promote and/or finance product delivery to a wider consumer audience i.e. community wide, multi-tenure property refurbishment including stimulating local supply chain involvement and growth. This scenario is best described in **Figure 4** and highlights the supplier as taking a critical role in product delivery.

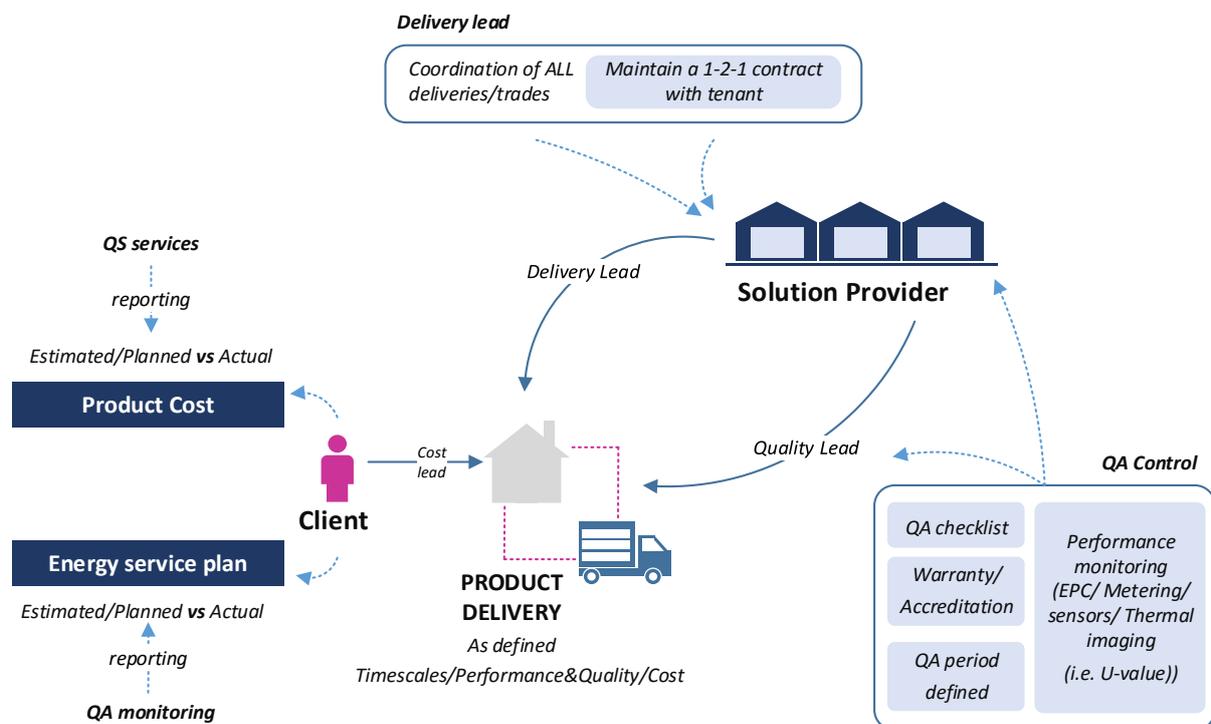


Figure 4 – Product Delivery.

The final aspect in the product delivery process is to ensure a lessons learnt phase, where an open and critical review of each stage of the process is carried out to develop and hone the process to ensure continuous improvement. This is to be measured against the original project outcomes and resulting in improved product performance and cost, with increased consumer satisfaction, confidence and take up.