

NLA Expert Panel Whitepaper: Technical Competency



Purpose

Advise on the development of the New London Agenda, a long-term project that will inform and influence the next Mayoral term. The New London Agenda should provide a framework for London's built environment community to act together and shape a better city for all.

Six core areas of focus for the New London Agenda, to help guide discussions and key priorities over the following New London Sounding Board meetings.

Six 'ways of working'

- ① Plan for the long-term.
- ② Think beyond boundaries.
- ③ Embrace diversity. Embracing the diversity and richness of place, people, and planet – understanding that London's diversity is its greatest strength.
- ④ Focus on health of people and planet.
- ⑤ Invest in innovation.
- ⑥ Prioritise partnership. Working together in partnership, enabling us to unlock new solutions and approaches to shaping places for the future.

Background

A core theme linking all Technical Competency EP discussions over the past 2 and a half years is not what we build but how we build. The starting point was Grenfell and how the built environment industry needs to change. The Grenfell Inquiry reinforced how far the industry needs to collectively change the whole system of design, construction and asset management.

'Centre of Excellence' or 'Built Environment Society'

Discussions from the first to this third round of the Technical EP have been marked by a consistent theme; technical excellence requires constant improvement of knowledge, skill and methods of design and construction. This influences virtually every activity and discipline throughout the built environment industry. There has been significant change in relation to legislation and the regulatory framework, however research backed data on best methods of sustainable, safe construction are uncoordinated, disparate and often contradictory. Therefore a marshalling proposition is the creation of a 'Centre of Excellence' acting as repository for best practice, research backed knowledge, a trusted source and voice for all things connected to the built environment, and a coordinating hub for information in relation to improving skills.

An important component of such a centre would be looking to the future; a place to discuss, explore and develop the skills, materials and technology that we need for the next 100+ years—much like for the world of science the mission, purpose and principles of the Royal Society: to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity. The Society has played a part in some of the most fundamental, significant, and life-changing discoveries in scientific history and

Royal Society scientists continue to make outstanding contributions to science in many research areas.

The built environment industry needs to emulate this professionalism and rigour of enquiry.

Third Round Lines of Enquiry

The third round of the Technical Competency EP began on familiar themes in relation to improving skills, education and the development process.

Three subgroups developed specific lines of enquiry linked broadly in relation to these themes. Flowing out of each sub group are recommendations to inform the New London Agenda Sounding Board, and falling into 'ways of working' themes as follows:

① ***The future of the design team, and specifically the role of design management in an ever expanding and increasing specialist consultant/construction team. (Invest in innovation. Prioritise partnership) Liam, Chris, Kin, Simon***

The process of design is changing rapidly, and the advent of AI as tool will accelerate this change. Design specialists are now a standard feature across the built environment industry, and the role of coordinating this expanding field will be down to a 'design manager'. Traditionally this would be the role of the Architect, and could still be, however the increasingly complex and accelerated design and construction process requires specific skills. Could this role evolve?

Not much further development on this theme has taken place during this round, however the future of the design process and skills required is an important topic, in particular to address innovation.

② ***Procurement and how this could better support collaborative working and better quality outcomes. (Prioritise partnership) Andrew Parker.***

A traditional or design and build contract, procured via a single stage competitive tender process where the lowest bidder is most likely to be successful runs the risk of lack of collaboration in problem solving, and priority given to cost over quality outcomes.

Hackitt: *"the primary motivation is to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe for people to live in."*

On complicated construction projects the number of unanticipated events that require decisions are higher and the risk allocation, blame culture created by the tender process and consequent contracts does not encourage efficiency or good final outcomes.

The solutions lie in fostering a collaboratives, risk sharing procurement fundamentally fostering a change in culture and approach to the design and construction process.

Hackett: *"Changes to the regulatory regime will help, but on their own will not be sufficient unless we can change the culture away from one of doing the minimum required for compliance, to one of taking ownership and responsibility for delivering a safe system throughout the life cycle of a building."*

Traditional procurement approach has been used for 150 years and so change presents a serious challenge, not least to developers whose investors and banks do not have a long-term interest in ensuring the quality and long-term efficiencies that collaborative procurement can achieve.

A more collaborative procurement process is therefore likely to only suit clients and projects whose primary focus is the long-term value of the end product. That means those schemes where the client is the long-term owner and is invested in the quality of the product over a longer period. If such schemes and clients can be targeted for understanding the benefits of collaborative working, then a track record of success can be established.

③ ***Material reuse in buildings (Planning for the long term, Focus on health of people and planet). Lucia Berasaluce, Liam Bryant, Balazs Bicsak, Graham Hurrell***

In order for materials to be reused more widely there needs to be a reliable and trusted method of certification; a 'material passport' that would support 'golden tread' principle.

Key questions that were explored included:

What does good look like?

Is it replicable/ scalable?

Is it process or behaviour driven or both?

How do we demonstrate value and most importantly measure this over time?

The main aim of a Material Passport would be:

- Facilitate reuse potential and recycling
- Aid maintenance and upgrades
- Account for embodied carbon

The above aims can only be achieved through a system where the performance and suitability for reuse of materials and components can be relied upon, and therefore de-risked for specifiers, building owners and tenants. The forthcoming EU Carbon Border Adjustment may push the UK into adopting a similar strategy to reduce carbon intensive construction materials. The current data on materials whilst extensive, is consistent with incomplete information particularly in connection with information for evaluating of reuse potential.

A solution therefore is to start the process of a standardised certification for building materials and components—a 'golden standard'. This would require data capture and the format of this would naturally evolve over time as the process is more widely adopted.

Conclusion

Recommendations for the Sounding Board:

'Centre of Excellence' or 'Built Environment Society' (All six 'ways of working')

The NLA has created an incredible collective of industry experts within 15 thematic panels. It is not such a great leap for this to develop into as sort of Society of Built Environment that promote and support excellence to encourage the development and use of built environment knowledge for the benefit of humanity.

This would address the core aim of supporting a binding framework for London's built environment community to act together and shape a better city for all. More immediately, it would address all six of the 'ways of working'.

Procurement and how this could better support collaborative working and better quality outcomes. (Prioritise partnership)

In the context of public procurement, those nations that have moved towards collaborative procurement did so progressively, via target cost contracts where overspend was shared between employer and contractor.

As the GLA contemplates self delivery, and Homes England take on more power within strategic land development, this would be a positive step towards a more progressive quality based construction strategy.

Material reuse certification (Planning for the long term, Focus on health of people and planet).

A similar system exists, but not currently in the UK. Interviews with Danish manufacturer Madaster and others that have been using this tool will be a starting point for the certificate platform which would be cloud based for ease of access and updating, and include categories such as basic material properties, expected lifespan, durability, disassembly guide, and circularity information. The certification would be linked to the building along with test results and structural design calculations forming part of a comprehensive Building Manual.

An important first step to progress this would be to define a consistent standard for material definitions.

About the Technical Competency Expert Panel

In the aftermath of Grenfell, the relationship between architects, project managers and contractors' roles in the delivery of buildings is under question. In a world dominated by BIM the building team need to understand how different elements of their buildings go together. This Panel will share thought-leadership on improving technical competency in the detailed design and delivery of buildings in London, and advise NLA on the development of a new technical programme. Topics of focus will include fire safety and material performance, building regulations and procurement, modern methods of construction, digital collaboration, and training and education.

Chair: *Arita Morris, Child Graddon Lewis*

Lucia Berasaluce, Haptic Architects

Balazs Bicsak, Price & Myers

Liam Bryant, Webb Yates Engineers

Peter Caplehorn, Construction Products Association

Chris Charlton, Stride Teglown

Nattasha Freeman, SHEQ, Turner & Townsend

Graham Hurrell, WICONA

Kin Kay Lee, PDP London

Festus Moffat, JRA

Andrew Parker, Forsters