

The Architectural Technologist's role in linking Lean Design with Lean Construction

A paper by

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Introduction

- Purpose of 'Lean Design'?
 - To improve the 'manufacturability' of a product
- Purpose of 'Lean Construction'?
 - To improve the flow of information, materials and people in the production process

Design must be integrated with construction

- Why?
 - Team activity requiring co-ordination
- Who?
 - Architectural Technologists



British Institute of Architectural Technologists

- Who are we?
 - 'Society of Architectural and Associated Technicians' founded 1965
 - Leading architectural technology body in the UK and overseas
 - Over 6500 members worldwide
- What do we do?
 - Set the standard for education in architectural technology
 - Set the standard for professional conduct
- What is our mission?
 - To promote architectural technologists as pivotal members of the construction team



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UK Construction Industry

Not unique

- Similar problems to other countries
- Transactional contracts and assignments
- Multiplication of errors and costs
- Limited opportunities to reduce waste

80% of costs = 20% of design process

- As time goes by.....
 - Cost reduction potential reduces
 - Resistance to change increases
 - Cost to change increases



The need for co-ordination

- Why?
 - Construction process more complex than in the past
 - Divergence in core skills between design and construction
 - Widening gulf between design and construction
 - Chaotic design management leading to construction problems

Knowledge gap that needs to be filled

- How?
 - Understanding of design and production processes
 - Recognition of importance of detailing
 - Understanding impact of design decisions
 - Necessity of managing information flow



Design for production

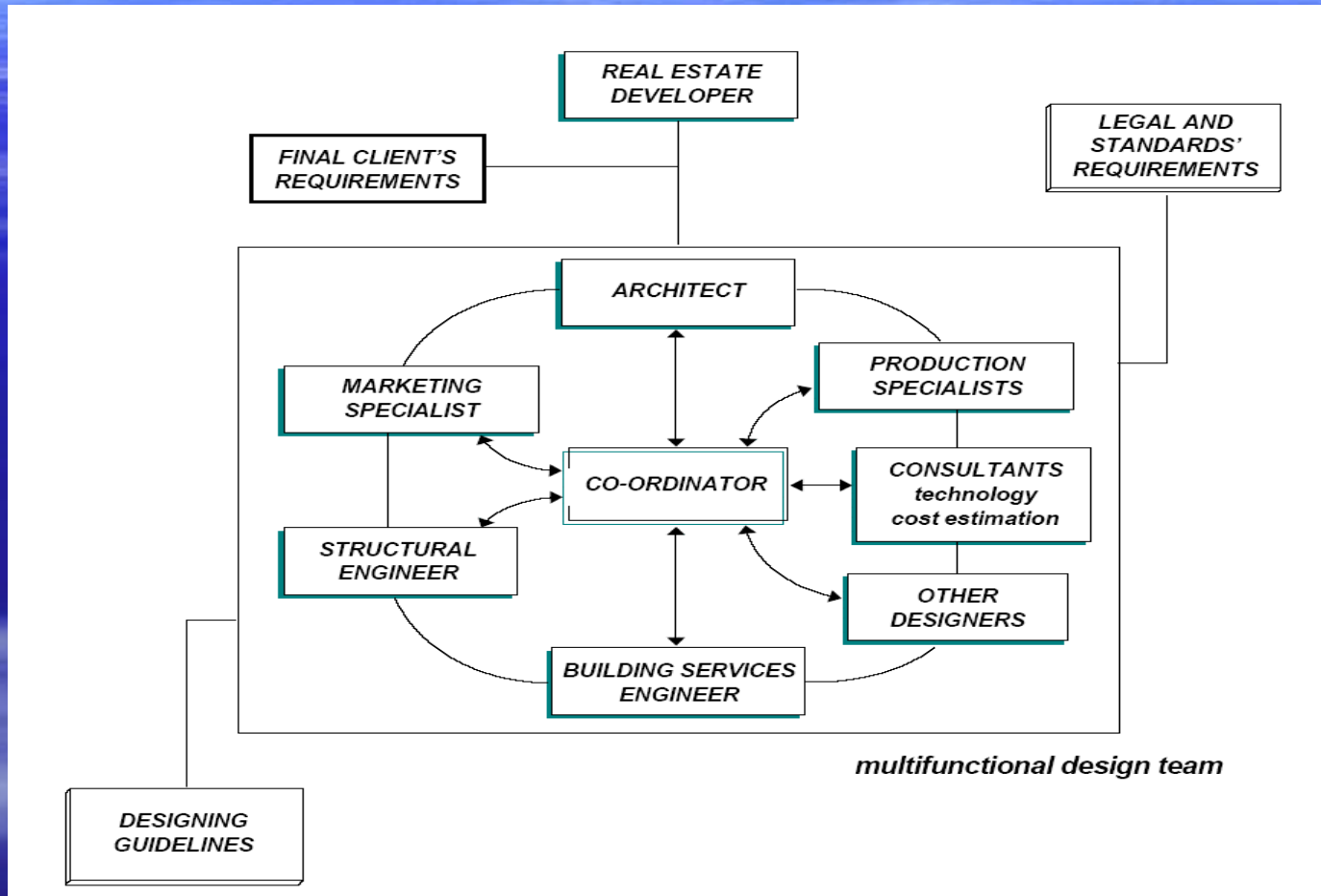
- A new type of design consultant with:
 - Cross-functional experience
 - Knowledge and understanding of the design and construction process
 - The ability to materialise
 - Knowledge of physical and performance factors of building materials and technologies

Constructive link between design & construction

- Adviser, inquisitor, tactician, adjudicator and diplomat



Managing the design process



Melhado 1998



Architectural technologist as co-ordinator

- Architectural technologists possess:
 - Knowledge and understanding of the design process
 - The ability to translate design intent into construction
 - Knowledge of the physical and performance factors of building materials and associated technologies
 - The ability to work fluently within a multi-disciplinary design team

Bridge the **gap** between concept and practical

- Achieved through post-graduate education and training programmes



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Thoughts for the future

- Current topics:
 - Role of technologist as an integrator and enabler
 - Maturation of the architectural technology as a profession
 - Integration of the technologist in the value chain
 - What is the current extent of 'lean thinking' in UK construction?
 - How does 'lean' manifest itself in building design and detailing?

Research and Development of **vital** importance

- BIAT has recently commissioned research into:
 - The teaching of design skills within undergraduate degree programmes in AT
 - The development of an integrated team philosophy with undergraduate teaching programmes



Thank you for listening

Any questions?



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