



CIBSE / ASHRAE 40th Anniversary

DELIVERING BUILDING SERVICES EXCELLENCE



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BUILDING SERVICES EXCELLENCE

Yes, We Can!

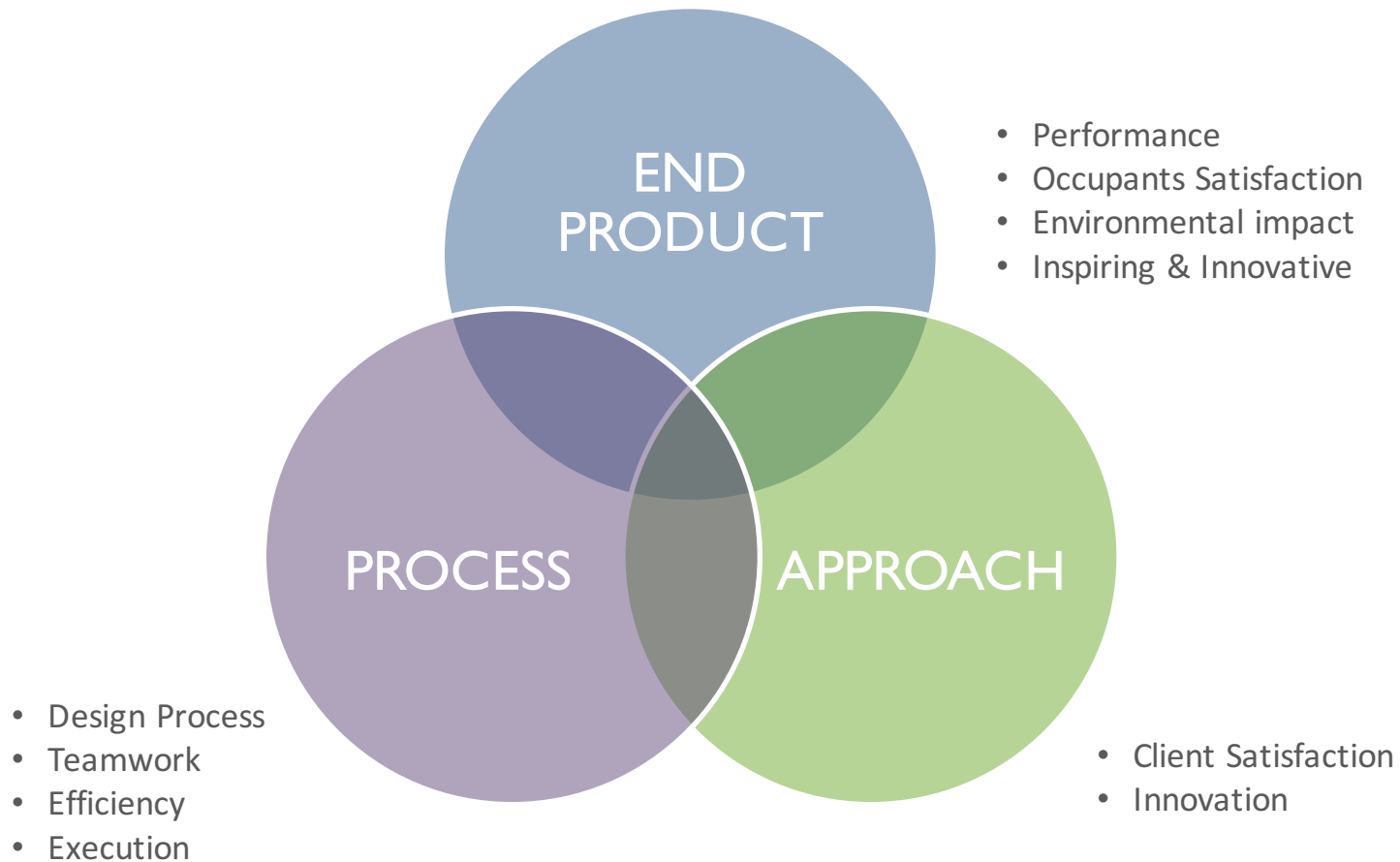
the NEED for EXCELLENCE

- environmental & economic challenges
- rigorous energy targets
- occupants' expectations
- inspiring the next generation of engineers



World's 1st 3D printed office, Dubai

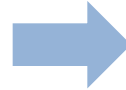
WHAT IS BUILDING SERVICES EXCELLENCE?



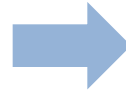
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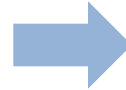
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WHAT IS BUILDING SERVICES EXCELLENCE?



Building Services Excellence - the OBSTACLES



Adoption of innovative ideas into projects is highly dependent upon achieving client sponsorship and approval - how to **effectively communicate our ideas** and make our voices be heard?

1. **Client's Objections**
2. Nothing Changes
3. Utilising Resources Available
4. Life After the Handover
5. Skills Shortage

Building Services Excellence - the OBSTACLES



Building services excellence is not just about the end product – the building itself, but also **excelling in a process of designing it**

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Building Services Excellence - the OBSTACLES



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Building Services Excellence - the OBSTACLES



Delivering building services excellence should not stop at handover

Car manufacturers endlessly test new versions of their product before it is released for general sale. In building industry we do not have that luxury as every building is unique, it is a prototype.

We only get one chance to get it right!

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Building Services Excellence - the OBSTACLES



87,000 / year

graduate level engineers needed between now and 2020, but the higher education system is producing only a half of that demand.

(Kumar et al 2014)

“ School pupils often tend to avoid the difficult topics and perceive engineering to be one of the least well-rewarded professions ”

IET Skills & Demand in Industry, (2015)

There is a crying need to promote really constructive, positive messages about engineering using a unified voice and get strong role models in front of children



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64%

employers say a shortage of engineers in the UK is a threat to their business

IET Skills & Demand in Industry, (2015)

Building Services Excellence - the OBSTACLES

Engineering employers have the potential to generate an additional

£27 billion / year

from 2022
(equivalent to the cost of building 110 new hospitals)

Engineering UK Report, 2016



53%

employers admit that a typical **new recruit does not meet** their 'reasonable **expectations**'

IET Skills & Demand in Industry, (2015)

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Does society know about us?



“

*Building services engineering
is at the forefront of the
challenges society faces.*

”

An aerial, black and white photograph of a dense urban skyline, likely New York City. The image is split horizontally by a semi-transparent grey band. The top half shows a bright, sunlit city with many skyscrapers. The bottom half shows a darker, more shadowed view of the same city. In the center of the grey band, the text "THANK YOU FOR YOUR ATTENTION" is written in a clean, white, sans-serif font.

THANK YOU
FOR YOUR ATTENTION