CASLE Golden Jubilee Conference
Thursday 12 September 2019

“The Future of Surveying: Learning from the Past”

Programme for 12 September 2019 - 1

• 09.00 Session 1. Welcome - Chaired by Prof. Alan Spedding, Past President CASLE
  • 09.05 Dr Nabeel Goheer, Asst. Secretary General, Commonwealth of Nations
  • 09.15 Mr Joseph Segun Ajanlekoko, CASLE President
  • 09.30 Surv. Kwadwo Osei Asante, Global Chair of the International Cost Engineering Council (ICEC)
  • 09.45 Prof. John Connaughton, Head of Construction Management, University of Reading
  • 10.20 Ian McRae, Chadwick McRae, Commercial Property Agents
  • 10.55 – 11.25 Tea/ Coffee Break

Prof Dr Alan Spedding

Alan is a Chartered Surveyor and Chartered Structural Engineer. He is a Past Secretary General and President of CASLE. He joined UWE Bristol in 1972 to open the new Department of Surveying and served as Dean of Faculty and Associate Director. He continues to support CASLE as a member of the Secretary General’s Task Force.

Dr Nabeel Goheer

Nabeel is the Assistant Secretary General at the Commonwealth Secretariat in London. He has worked with the ILO/UN, World Bank, UNDP, USAID and the Government of Pakistan.

Mr Joseph Segun Ajanlekoko

Joseph is the President of CASLE, Past President of Nigerian Institute of QSs, the Africa Association of QSs and the Association of Professional Bodies of Nigeria; he is the Managing Partner of Construction Economists Partnership Ltd.

Surv. Kwadwo Osei Asante

Kwadwo is the Global Chair of the International Cost Engineering Council, Fellow & Past President of the Ghana Institute of QSs, Fellow of the Chartered Institute of Building and Member of the Chartered Institute of Arbitrators; he is a Works Contract Disputes Facilitator and an Assessor at the Commercial Division of the High Court of Ghana.
1. What is ICEC?

ICEC is a worldwide confederation of professional cost management associations:
- Cost Engineering,
- Quantity Surveying,
- Project Management, and lately
- Project Controls

ICEC provides an international identity for the cost management profession as a distinct professional discipline

Founded in 1976 by the American, Dutch, British, and Mexican Cost Engineering Societies

ICEC – Key Purpose

- Collaboration between project cost management professional associations is the key for the global development of the profession
- ICEC provides an over-arching global identity and the vehicle to bring all these associations together
- ICEC is not in competition with anyone
- The mission of ICEC is to support the profession and professional associations and bring them together to network, share knowledge and information to raise global standards of project cost management

Overview

1. What is ICEC?
2. ICEC Services & Activities
ICEC

- ICEC has now grown to have a membership base of 42 associations representing over 120 cost management professionals throughout the world:
  - 14 cost engineering societies
  - 11 project management societies
  - 17 quantity surveying societies
- An ‘umbrella’ framework organized into 4 regions:
- ICEC also collaborates with other regional and industry associations to help develop the profession
  - RICS, FIG, AAQS, PAQS, IPMA, etc.

ICEC – Making it More Relevant

- Have developed a new strategic plan
- Includes reaching out to firms and individuals
- Raise awareness of what ICEC is and how firms and individuals can benefit (and become involved)
- Feedback continues to be sought from member associations and their members
  - Eg. Communication (website, email, “skype”, videoconferencing, telephone, etc.)
- Services/information needed

Networking

- ICEC provides considerable opportunities for networking and sharing of information, resources & knowledge amongst member associations.
- Tremendous potential for collaboration on:
  - international research projects
  - cost management practices/innovation
  - Mobility of professionals around the world
- Main communication vehicle is ICEC website:
  - www.icoste.org

Region 1: North/South America - Brazil (CE), Canada (CE), Canada (QS), Mexico (CE), United States (CE), Venezuela (CE)
Region 2: Europe & Near East - Austria (PM), Cyprus (QS), Czech Republic (PM), Denmark (PM), Finland (PM), France (PM), Greece (PM), Hungary (CE), Italy (CE), Italy (PM), Netherlands (CE), Romania (CE)
Region 3: Africa - Ghana (QS), Kenya (QS), Namibia (QS), Nigeria (CE), South Africa (CE), South Africa (QS)
Region 4: Asia-Pacific - Australia (CE), Australia (QS), China (CE), Fiji (CE), Hong Kong (QS), India (PM), Japan (CE), Malaysia (QS), Philippines (QS), Singapore (QS), Sri Lanka (QS), Sri Lanka (PM), South Africa (QS), South Africa (PM)

Member countries are shown in darker colors.
Lighter colors indicate countries with ICEC associates and correspondents.
2. ICEC Services & Activities

 ICEC Publications

- Roundup Newsletter
- International Cost Management Journal (ICMJ)
  - Selection of the best papers previously published by member associations (congresses, journals, etc.)
  - Focused on papers directly relevant to industry

Global Identity for the Profession

- Global development of the profession requires:
  - Global leadership
  - Single global professional title
  - Global professional standards & certification
  - Global project cost management standards
  - Engagement with key global organisations
  - Transportability of services

ICEC World Congresses – Every 2 Yrs

2016 – Rio de Janeiro, Brazil
October 2016

2018 – Sydney, Australia
November 2018

2020 – Accra, Ghana
October, 2020

ICEC – Sharing Resources & Knowledge

- Sharing of journals, publications, etc.
- International Standards Group
  - Inventory of Best Practice & Standards
  - Contributions from member associations
- Industry Reports/Publications
- Professional Competency Standards
- International Sources of Cost Data
- Links to industry software
- Book/Software Reviews

Global Recognition – International Construction Measurement Standard (ICMS)

- ICEC is supporting the development of the International Construction Measurement Standard (ICMS)
  - [https://icms-coalition.org/](https://icms-coalition.org/)
  - Over 40 associations have joined the coalition to develop this standard
  - Not intended to supplant local standard methods but to provide a global standard that can be used as required
  - Provides global standards for the profession
  - Will assist countries where the profession is emerging
ICEC – International Recognition

• UN Habitat Initiative (2001)
• Registered as an NGO with UN Habitat (2003) Cooperative Agreements
• Granted Roster Consultative Status with the United Nations Economic and Social Council (ECOSOC) in 2006
• Reciprocal agreements with:
  - International Project Management Association (IPMA)
  - International Federation of Surveyors (FIG)
  - Royal Institution of Chartered Surveyors (RICS)
  - Africa Association of Quantity Surveyors (AAQS)
  - Pacific Association of Quantity Surveyors (PAQS), RICS

ACTION IN EMERGENCY

Managing construction's use of the world’s material scarce resources

Thank You

Prof. John Connaughton
John is Head of Construction Management and Engineering in the School of the Built Environment at the University of Reading and Professor of Sustainable Construction. Chair of the Executive Board of the UK Construction Industry Research and Information Association. Previously Partner in Davis Langdon.

THE GROWTH PROBLEM

Exploitation of fossil-based energy is key to industrial growth.

Source: Friends of the Earth Europe, 2009

CONTEXT: URBANISATION

Urban and rural populations 1950-2050

By 2030, over 80 billion m² of buildings will be built new and rebuilt in urban areas worldwide. This is ≈ 60% of the world’s building stock.

This construction activity breaks down as follows:
- 38% China
- 15% U.S. / Canada
- 9% India
- 9% Latin America
- 9% Middle East / Africa
- 12% Other emerging
- 4% Western Europe
- 4% Other developed

Source: Architecture 2030, (2014)

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Source: Architecture 2030, (2014)

The global building sector consumes 3 billion tonnes of raw materials every year, approximately 40-50% of total world resource consumption.

Construction and demolition account for almost one third (30%) of global waste by volume – the highest for any sector.

One quarter of global timber production is used by the construction industry.

Source: OECD, UNEP (various)

The importance of materials

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URBANISATION AFFECT...

Material, labour and energy productivity

Source: IRP, UNEP, 2017

MATERIALS IMPACTS

Materials consumption has a range of impacts...
• Resource depletion
• Energy use and GHG emissions from extraction, manufacturing, transportation, installation, use and disposal
• Water consumption at all stages
• Pollution to air, water and land from processes at all stages
• Waste generation at all stages, including end of life disposal

LOOKING AHEAD...

Global materials use, 2011 and 2060

Source: OECD, 2018

MATERIALS IMPACTS

(MATERIAL IMPACTS)

Concrete
Iron

9 major impacts — Green is GHG
Impacts are relative to the most polluting material = 1

Source: OECD, 2018

MATERIALS IMPACTS

(by use)

Concrete is responsible for 9% of global GHG emissions

7 key metals (iron, aluminium, copper, zinc, lead, nickel and manganese) are responsible for 7% of global GHG emissions
SO WHAT’S TO BE DONE?
Circular economy thinking in construction

Diagram source: www.wienerberger.co.uk

MATERIALS RESOURCE EFFICIENCY
• Materials resource efficiency is about using less:
  – Smarter design, avoiding over-specification
  – Wastage reduction/management – especially on site
  – Using high recycled content materials/products
• Use materials/products with low embodied resources – especially energy/carbon and water
• Optimise durability by reducing premature obsolescence and design for de-construction and reuse
• Reduce resources (energy/water) and waste during construction

WHAT COULD THIS MEAN FOR SURVEYING?
Shifting the focus to include Resource Efficiency as well as ‘financial efficiency’…
• The development of standards for measurement and assessment
• The development of useful, consistent and reliable data
• The development of procurement processes with Circular Economy in mind
• Informing the development of policy and, where appropriate, regulation

FURTHER READING

ACTION IN EMERGENCY
Managing construction’s use of the world’s scarce resources

Professor John Connaughton

Ian McRae, FRICS
LOGISTICS & WAREHOUSE PROPERTY
Ian McRae, FRICS
Chadwick McRae

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- Future
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- Africa
- Conclusion

History

Before

Today

Specification

EXTERNAL
- Secure service yards up to 55m
- Security lighting - office car park and service yard
- Up to 568 car parking spaces
- Up to 139 HGV trailer parking spaces
- Up to 72 Dock levellers
- Up to 8 level access doors
- Covered cycle shelter
- Secure fenced site

WAREHOUSE
- Clear internal height 15m
- FM2 category floor
- 50 kN per sq m floor loading
- 15% rooflights

OFFICE
- Two-storey office
- Mechanically ventilated system
- Suspended ceilings
- Raised access floors

X Dock

DC5 is a new build to suit cross dock distribution building up to 492,840 sq ft
- 568 car parking spaces
- 139 HGV parking spaces
- 72 dock levellers
- 8 level access doors
- 15m clear haunch height

<table>
<thead>
<tr>
<th>SQ FT</th>
<th>SQ M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 467,900</td>
<td>43,469</td>
</tr>
<tr>
<td>2 x 2 storey offices</td>
<td>14,672</td>
</tr>
<tr>
<td>2 x 2 storey 'hub' offices</td>
<td>10,010</td>
</tr>
<tr>
<td>Gatehouse</td>
<td>258</td>
</tr>
<tr>
<td>TOTAL</td>
<td>492,840</td>
</tr>
</tbody>
</table>

Design

X Dock 3D Model

Lighting

The interior lighting is designed to create a bright and welcoming atmosphere throughout the building. High-level lights, downlights, and skylights are strategically placed to ensure adequate illumination for all areas.

Access & Security

The facility is equipped with advanced access control systems and security measures, including video surveillance cameras and access cards for restricted areas. Emergency exits are clearly marked and easily accessible.
Design / Market Drivers

- Changing scope of retail driving demand
- Online retail causing a shift in occupier requirements
- Convenience food retail changing demand for warehousing in urban locations

Case Study - Whitley Business Park, Coventry

Design

How Technology is Changing the Future of Logistics
- Artificial intelligence and machine learning
- The rise of robotics
- 3D Printing – print or ship?
- From first to last mile: driverless vehicles, drones and robots
- Leading through uncertainty

Future
**Whitley**

**Rental Value**

<table>
<thead>
<tr>
<th>Warehouse</th>
<th>Area/Acreage</th>
<th>Rent per sq. ft.</th>
<th>Rent per annum exc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse</td>
<td>214,000</td>
<td>£6.50</td>
<td>£1,391,000</td>
</tr>
<tr>
<td>Canopy</td>
<td>28,000</td>
<td>£1.75</td>
<td>£49,000</td>
</tr>
<tr>
<td>Ext. Storage</td>
<td>7.50</td>
<td></td>
<td>£56,000</td>
</tr>
</tbody>
</table>

**Total Annual Rent** £1,860,000

**Yield Calculation**

- **Area**: 214,000
- **Rent Per sq. ft.**: £6.50
- **Initial Rent**: £1,391,000
- **Canopy**: £49,000
- **Additional Yard Rent**: £420,000
- **B Rent**: £125,000

**£1,985,000**

**Net Initial Yield**: 4.53%

**Net Price**: £41,007,214

**Less Rent Free Months**: £0

**Total**: £41,007,214

**Investment Acquisition Costs**

- **Legal Costs**: 0.50%
- **Agent’s Fees**: 1.00%
- **Other costs**: 0.26%
- **Stamp Duty**: 5.00%

**6.76%**

**Purchase Costs**: £2,773,113

**Gross Cost**: £43,780,326

**Price per sq. ft. Gross**: £204.58

**Net**: £191.62

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**Case Study - Whitley Business Park, Coventry**

**AFRICA**

**Africa’s New Trade Frontier**

- **USA**
- **CHINA**
- **FRANCE**
- **ITALY**
- **GERMANY**
- **INDIA**
- **TOP 10 BILATERAL TRADES WITH AFRICA**

**Why better warehouses will be the key to Africa’s growth**

- What a difference it could make.
- Providing a platform for African Manufacturing and 4IR
- Enhancing agricultural value chains & reducing food losses
- Enabling the growth of African SMEs
- Accelerating E-commerce
- Driving economic growth, regional trade & skilled job creation

**Conclusion**

- **Location, Markets, Transport, Infrastructure, Planning, Labour and Power**
- Public Sector and Private Sector together
- Modern technology
- Employment, predominantly skilled.
- The history of logistics is all about the move from an economy focused on production to one focused on consumption. The future of logistics is about the repatriation of jobless production.
Thank you

Logistics, Industrial & Office Property Experts
International Development, Investment, Planning & Asset Management
icm@cmre.co.uk

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