Bechtel

- Global Engineering & Construction Company
- Bechtel Civil regional projects
  - New Doha International Airport, Qatar
  - Khalifa Port and Industrial Zone, Abu Dhabi, UAE
  - Muscat International Airport, Oman
1985 – CICA

- Early BIM software
  - RUCAPS
  - Required specialist hardware
  - Expensive

- 2D CAD
  - Price
  - Commercial victors
  - Rise of PCs
1985 – CICA

- Early BIM software
  - Same concepts
    - 3D Graphical Database
    - Multi-User Access
    - Drawings are Graphical Reports

- Information

  “In the future, the use of computers will be justified less on their benefits to individual offices than on their capabilities for transferring information between members of the design and build team.”

Rob Howard (CICA)
Bechtel BIM Evolution

- Plant Modelling
  - Processes
    - Engineering deliverables to Construction
  - Platforms
- Speedikon
- Virtual Railway
  - Thameslink 2000
Bechtel Civil

Rail
- High Speed 1, UK
  - St Pancras Station
- Crossrail, UK
  - All sub-surface stations
- West Coast Route Modernisation, UK
  - Rugby station remodelling

Airports
- Gatwick Airport, UK
- Muscat International Airport, Oman
  - Main Terminal building and Piers
BIM for Mega Projects

- Platform

- Plan
  - BIM Information Plan
BIM Management

- Processes
- Applications
BIM Step Change

- **Software Capability**
  - Mature Platform / Modelling Tools

- **Value Added**
  - Contractors recognise value

- **Client Pull**
  - Clients are recognising value. BIM requirements in RFPs

- **Government Pull**
  - UK/US initiatives are mandating BIM technology in Government funded projects
Innovation

- Augmented Reality
  - Buried/Hidden Services

- Mobile Devices
  - Field access to design information
  - Ease of use
  - Ubiquity of devices
Challenges

► Level of model detail and functionality
  • deciding the what, when and why of the model

► Subcontractor BIM Capability
  • specification of data format, not tools

► Model Configuration Management
  • communication of change

► Software Performance
  • complex and very large buildings and datasets
Summary

- BIM is not new
- Information is key
- Information platform/plan - Big BIM Management
- A step change in BIM requirements
- Continuing innovation
- Challenges