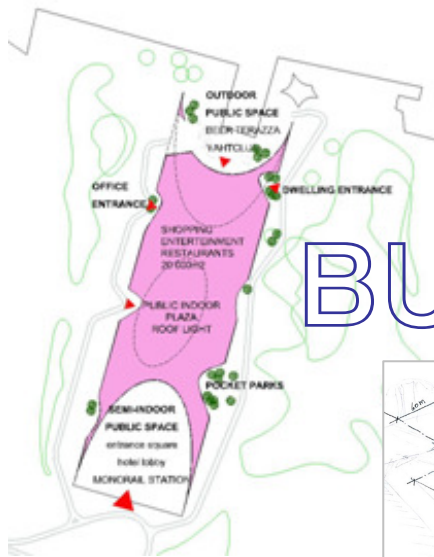
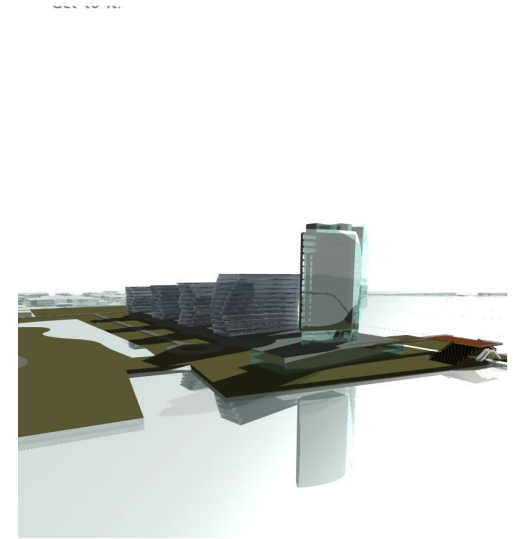
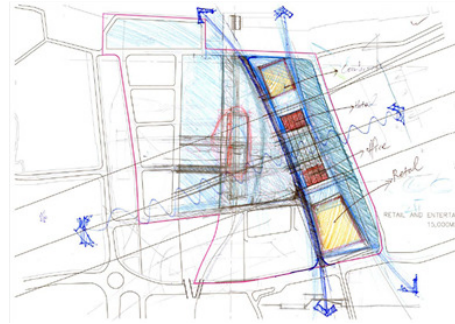
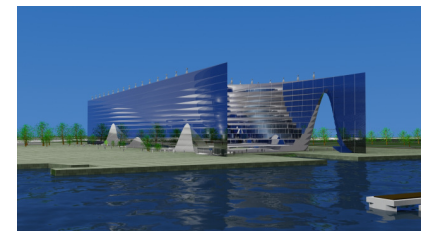
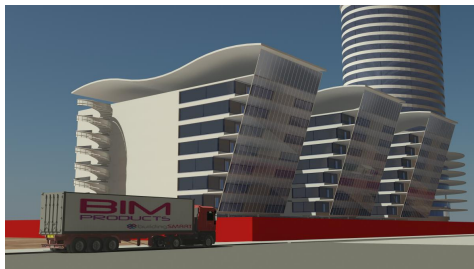
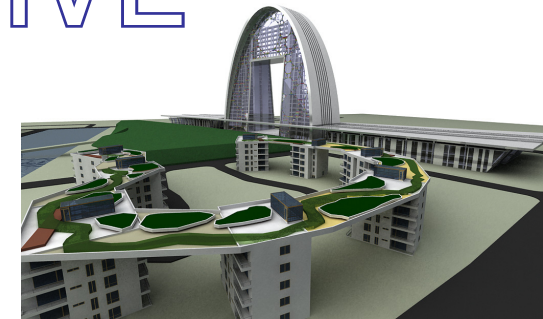
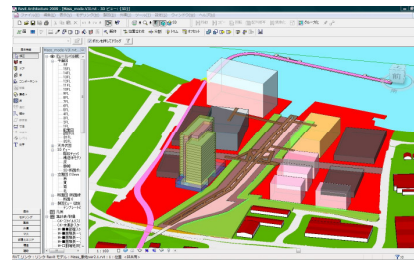
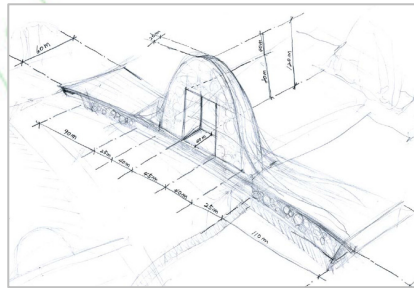
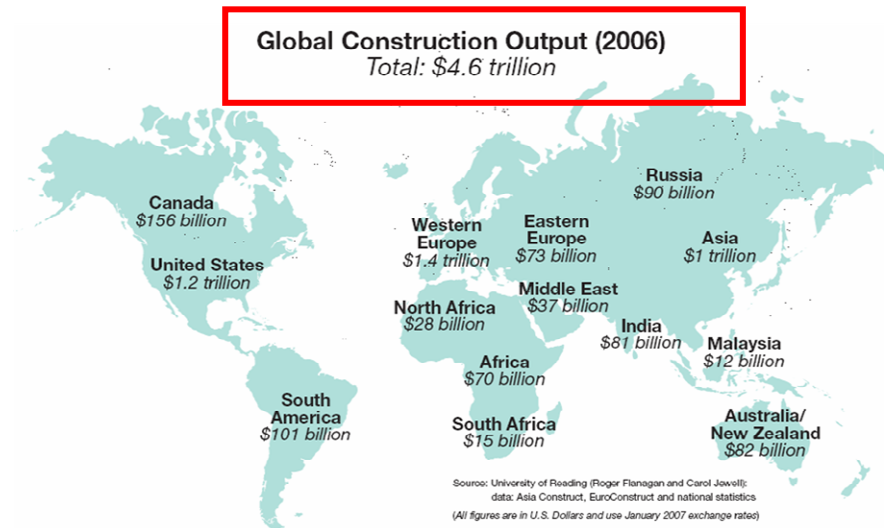


BUILD LONDON LIVE



BIM IN THE CONSTRUCTION INDUSTRY



Building Information Modelling (BIM)

Stakeholder Group	Planning, Engineering, and Design Phase	Construction Phase	Operations and Maintenance Phase	Total
Architects and Engineers	1,007.2	147.0	15.7	1,169.8
General Contractors	485.9	1,265.3	50.4	1,801.6
Specialty Fabricators and Suppliers	442.4	1,762.2	—	2,204.6
Owners and Operators	722.8	898.0	9,027.2	10,648.0
Total	2,658.3	4,072.4	9,093.3	15,824.0

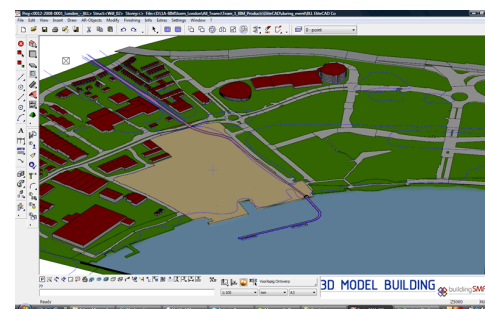
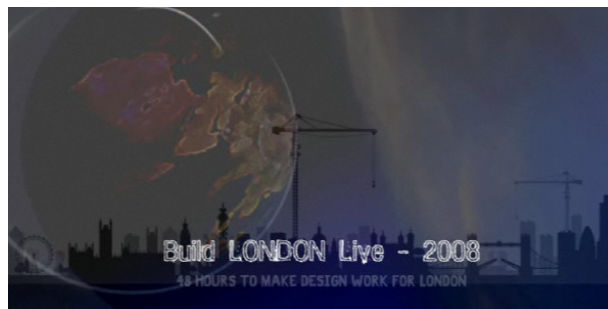
From: *Cost Analysis of Inadequate Interoperability in the U.S. Capital Facilities Industry*, NIST GCR 04-867

Build LONDON Live 2008



A 48 hour hypothetical design competition for a site on the Greenwich Peninsula

The largest international real time design collaboration ever held
300+ international participants, 10 teams, 11 countries
50,000 website hits per day - mainstream coverage



BIM STORM BUILD LONDON LIVE
www.buildlondonlive.com
DATA DESIGN SYSTEM[®]

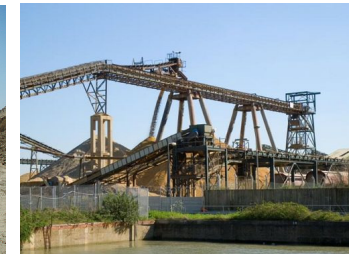
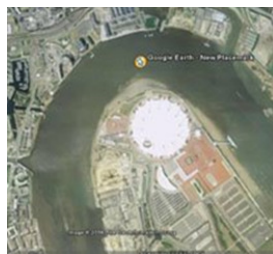
48 HOURS TO MAKE DESIGN WORK FOR LONDON

Building on the success of the live design events held in Boston, Rotterdam and Los Angeles, AEC3, Aalto, CADVisual and Onuma have announced BIMStorm Build London Live. This 48 hour virtual design collaboration starts at midday on Tuesday 24th June 2008 and runs through to a finish at midday on Thursday 26th June. The concluding press conference, also delivered online via video link, will be hosted at BIM Central in the Woolwich Arsenal at 2pm (UK BST) Thursday 26th June and will be followed by a drinks reception for participants, interested observers and press.

WHAT IS A BIMSTORM BUILD LIVE EVENT?
New technology can revolutionise the way buildings are designed and how the public can be engaged in the process. By using the power of collaborative working, the web and international developments in interoperability, BIMStorm Build LONDON Live will show the power of these new concepts for architecture, engineering, planning and construction. Progress being made will be visible to all and open for comment as it happens by a large audience on-line around the world.

BIMSTORM ON THE GREENWICH PENINSULA
A design brief for a theoretical development on the Greenwich Peninsula has been published and will encompass a mixed use tower, offices, hotel and conference facilities, 250 dwellings and 14000m² of retail

A SITE[®] Get to it.
AEC3
ONUMA
CADVisual
buildingSMART
DDS-CAD



BIM STORM BUILD LONDON LIVE
48 hours to make design work for LONDON
June 24 - 26, 2008

THE EVENT - PROOF OF CONCEPT



Objectives

- o Demonstrate the power of digital collaboration and BIM
- o Show the maturity of this technology
- o Demonstrate integration through Open Standards & Interoperable software
- o Show the potential cost and time saving
- o Create a learning experience to introduce BIM to a wider audience
- o Promote the dissemination of BIM skills

Where they Met?

- ✓ 300 People across the globe - design in 48 hours
- ✓ 100 Apps used; web-based sharing, & public involvement
- ✓ 48 hours vs. 3 - 4 Months + Transport ≈ £3.5 Million
- ✓ 50,000 website hits per day & mainstream coverage
- ✓ Many new to tools, all delivered design work



SPONSORS, PRIZES, JUDGES



headline



organising



Mark Bew
Scott Wilson



Inhan Kim,
Kyung-Hee University



Peter Rebbeck,
BAA,



Lars Christensen,
buildingSMART



Gerrie Muhren,
PSIBouw,

The prizes will be awarded as per below.

Award	Criteria: best combination of ...	Prize Sponsor
The 2008 BUILD LONDON LIVE Award	Design and Collaboration	Data Design System
Best Design	Drama, Compliance, Sustainability	Synchro
Drama and Excitement	(see below)	VR Context - Walkinside
Compliance with the Brief, Affordability	(see below)	Norconsult - Calcus
Sustainability	(see below)	Riuska
Best Collaboration	MDD, Publication, Interoperability	Satellier
Multi-disciplinary Design and Constructability	(see below)	MagicaD
Continuous Publication	(see below)	Octaga
Use of Interoperability.	(see below)	Solibri
Judges Discretionary Awards	To be decided dynamically	Drofus, EliteCAD

prize



TEN TEAMS International Collaboration



NORWAY

BIM Vikings

Data Design System
Nosvko
Arktis
Powel
Holte Byggsafe
EPM Technology
Focus Software
Norsk Teknologi
Octaga
Sintef
Norconsult Heggelund
& Koxvold
Statsbygg
EDR Engineering Data
Resources
Forsvarsbygg

FINLAND

Gravicon Oy

ALA Architects
The Granlund Group
LC Analysis
Rapol
Ramboll
Solibri

CHILE

Southern Axis

Cespedes+Izquierdo
Architects
Farru Architects
Universidad Diego
Portales, Architecture School

KOREA

Seoul BIM Forum

Kyunghee University
Heerim Architect & Planners
Inzi Architect
HyewonKaci
ArchiTOP
HANA Consulting Engineers
Sun & Light

KOREA

Team Omega

Linetek System
PORCH Architects
EO Architects &
Engineers
Mapgroup Hanterin
Sahm-In
Environmental Science
SamJeong EMC Co., Ltd
Junglim Architecture
Kyunghee University
BIMPeers

USA - BIMEducation

Design Atlantic

USA

Food for Thot

Earth & Sky Architecture
Scarmack Architecture
ERE Architecture

UK - BIM Products

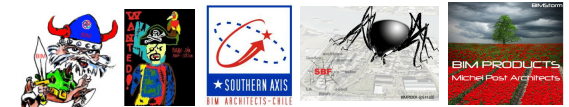
Michel Post Architects (DK)
NorConsult (Norway)
CADVisual (Netherlands)
3D MODELBUILDING.com
Solibri (Finland)
Synchro Ltd
VR Context (Belgium)

USA - Lessard Team

Lessard Group



300 Designers & Engineers
60 Companies
Multiple Disciplines
Many Time Zones In Real Time
100+ Software Applications



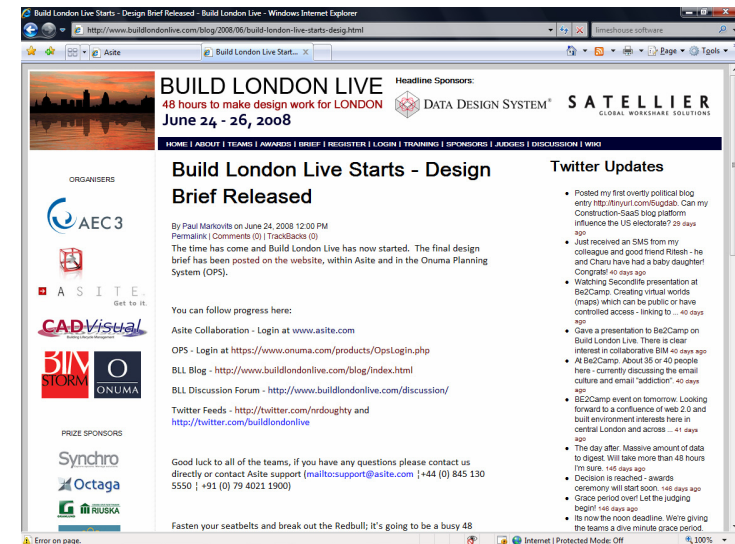
BIM STORM **BUILD LONDON LIVE**
48 hours to make design work for LONDON
June 24 - 26, 2008

THE BRIEF Build LONDON Live 2008

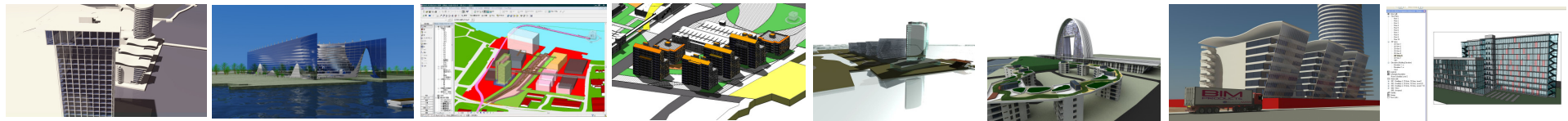


A Mixed Use Scheme Comprising:

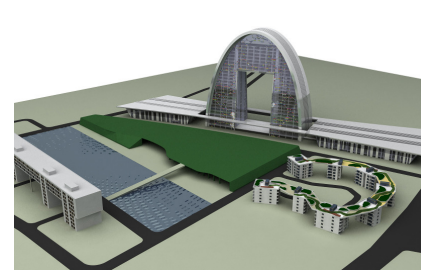
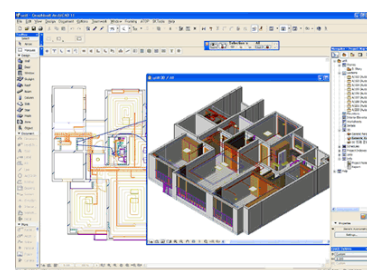
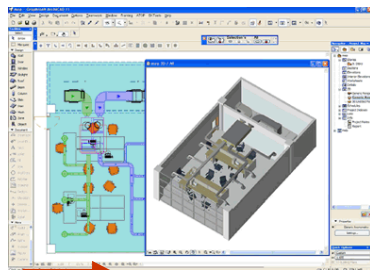
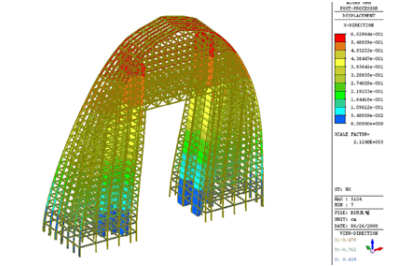
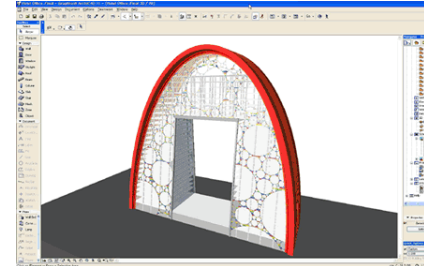
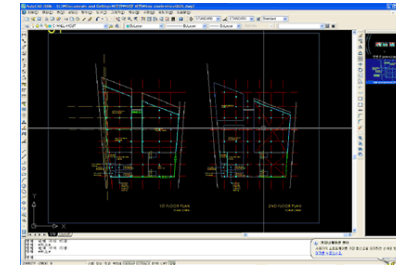
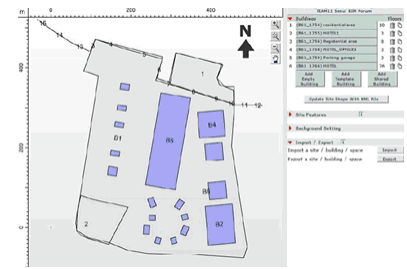
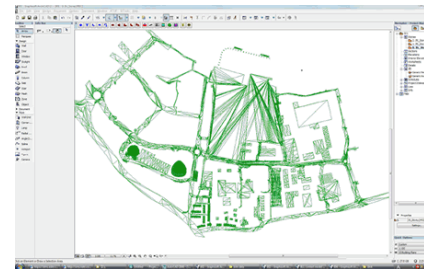
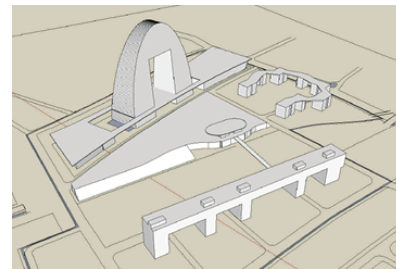
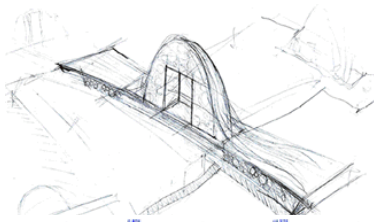
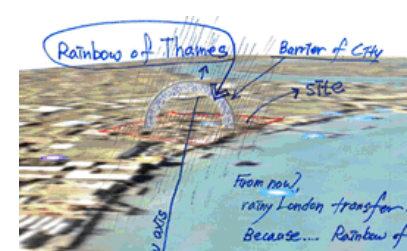
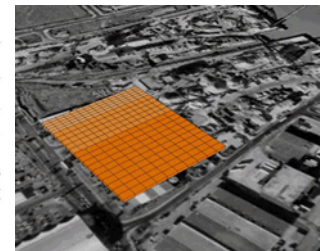
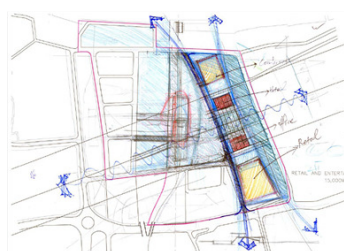
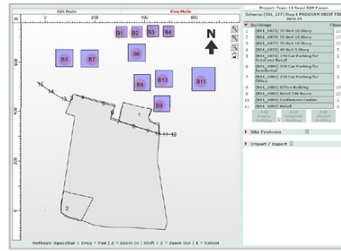
- 250 bed room hotel
- 50,000m2 office space (announced on morning of competition)
- Conference facility – 5,000m2
- Retail & entertainment – 15,000m2
- 250 dwellings (including 40% affordable housing)
- Parking for 600 cars
- Public spaces



TEN interpretations of ONE brief

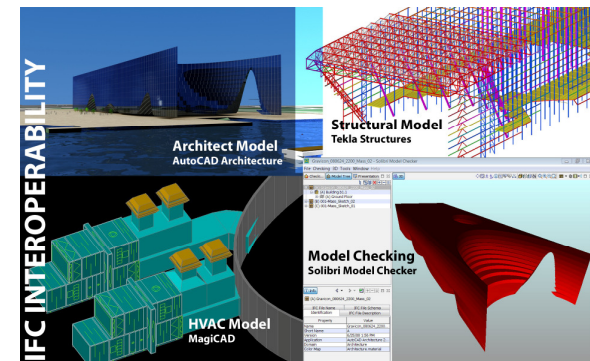
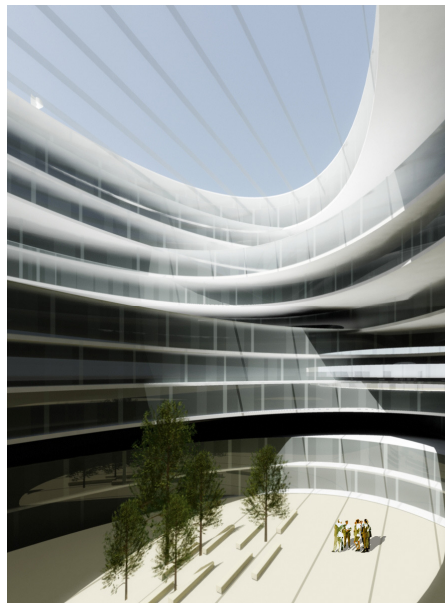
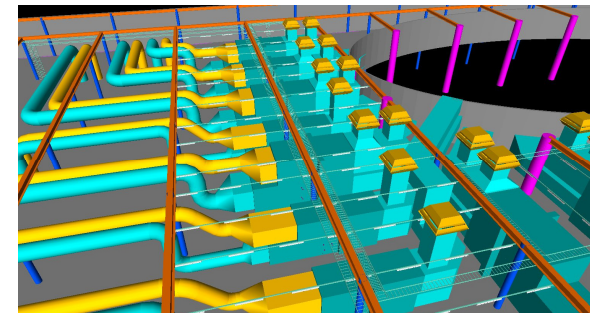
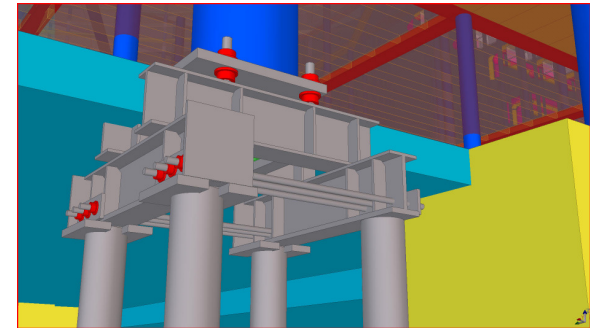
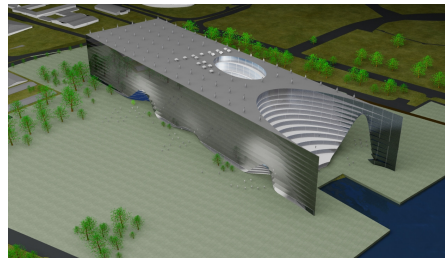
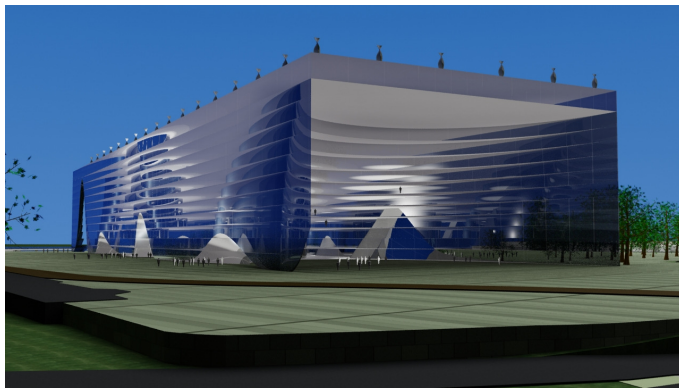


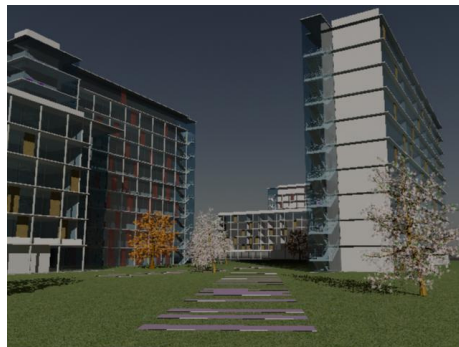
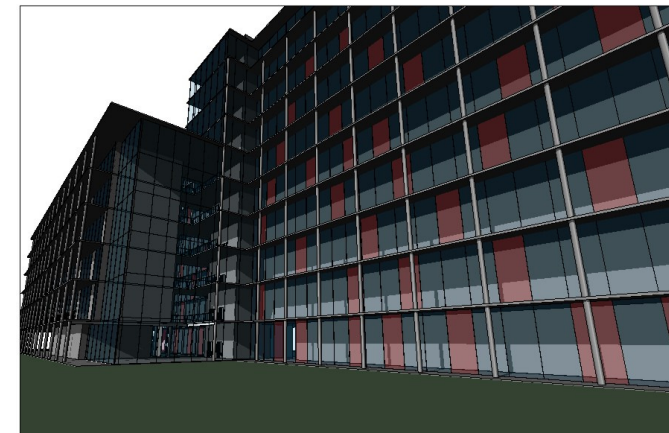
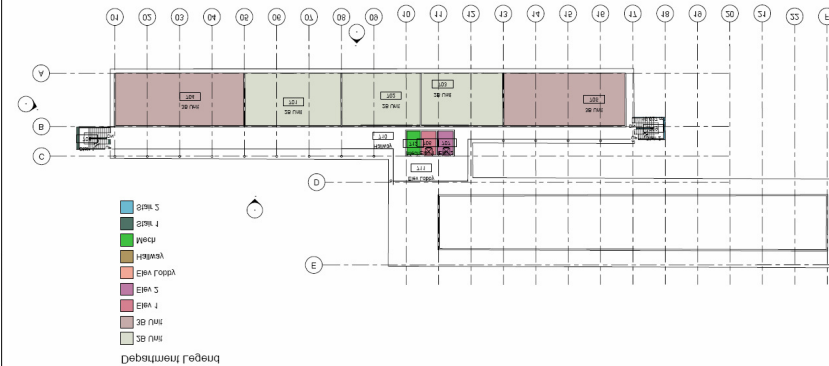
EVOLUTION OF DESIGN IN 48 hrs



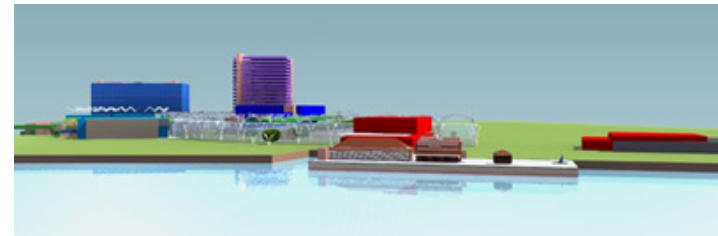
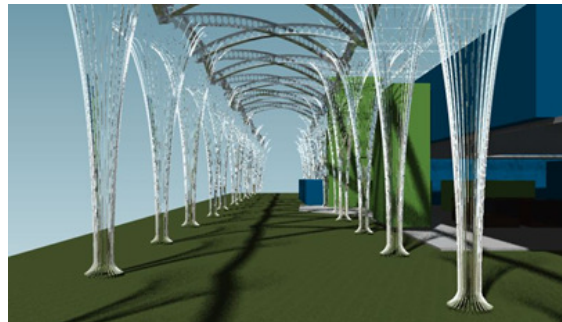
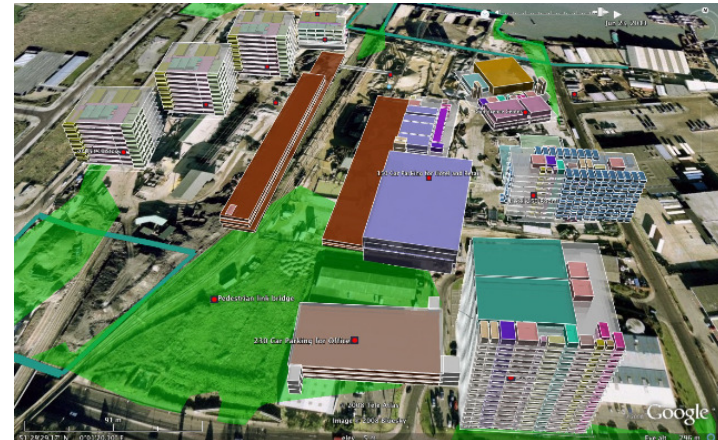
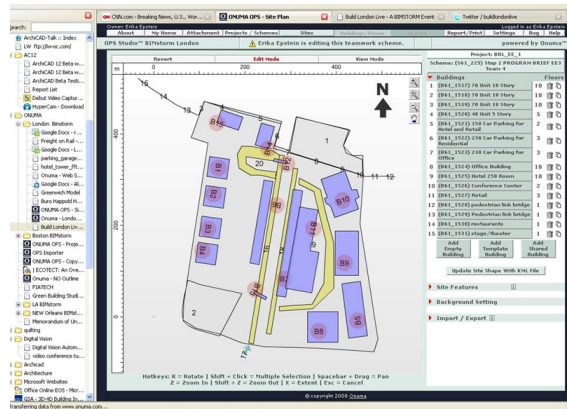
FINLAND Team Gravicon scheme

produced in 48 hours



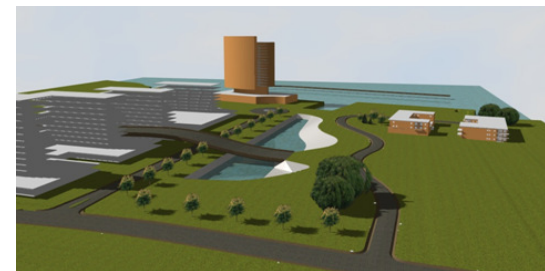
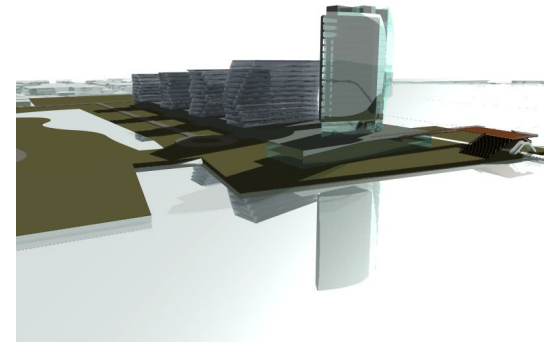
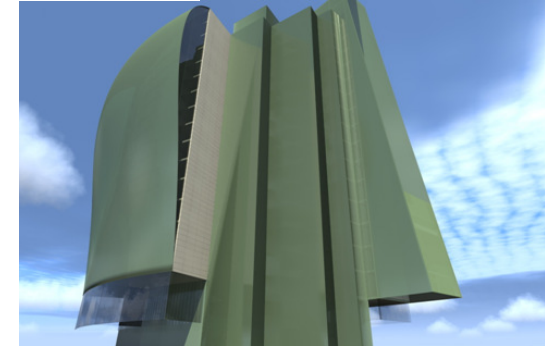
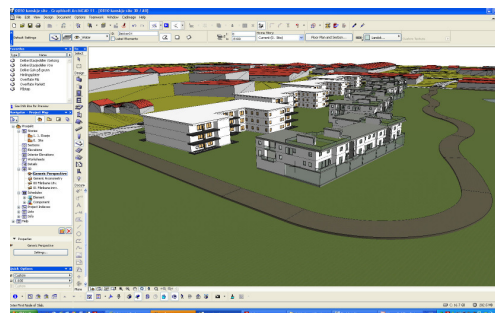
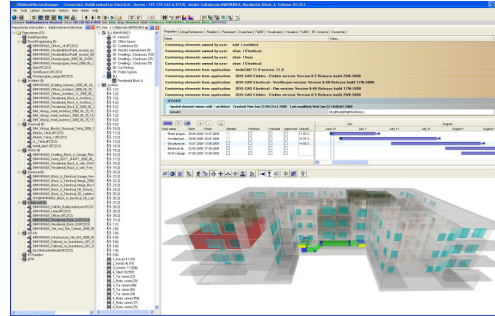
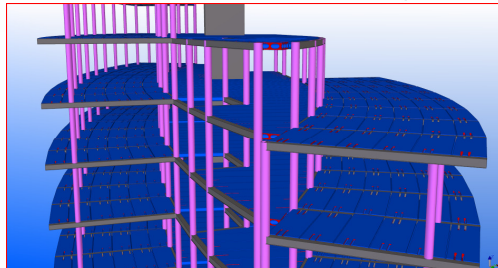
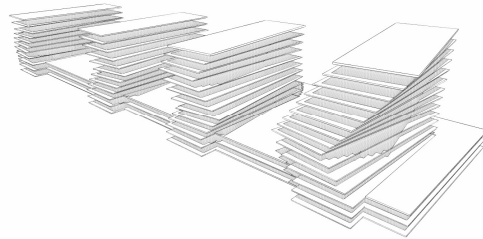
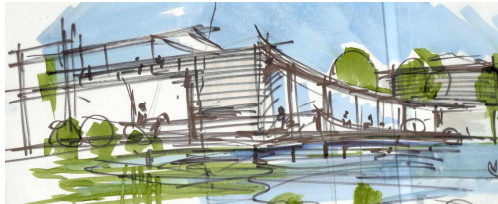


USA Team Food For Thot scheme produced in 48 hours

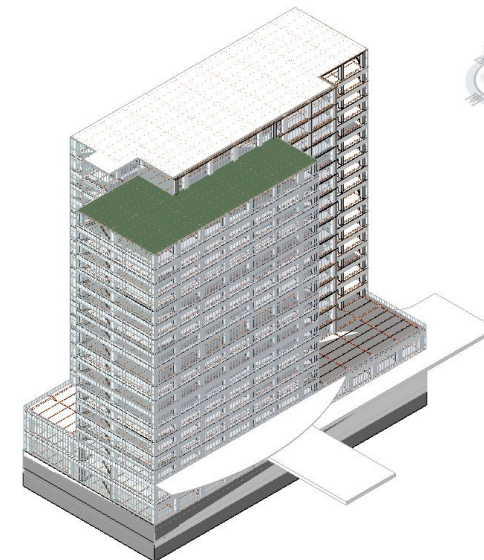
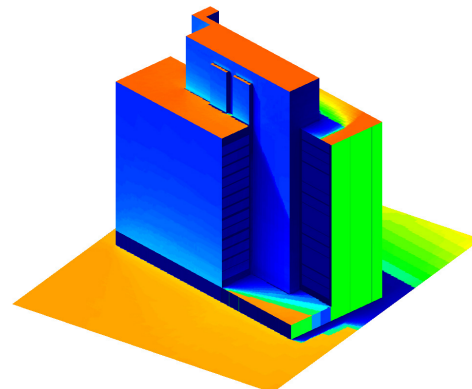
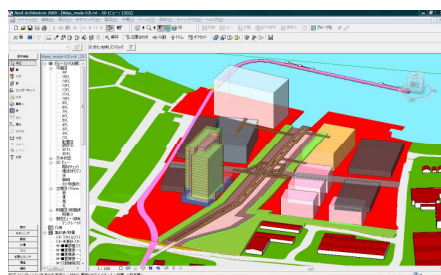
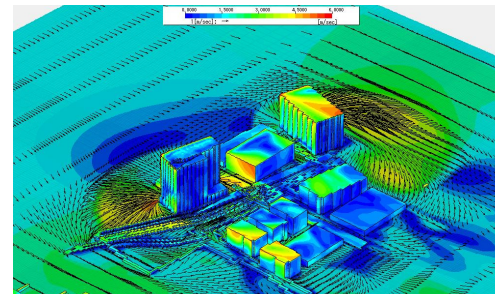
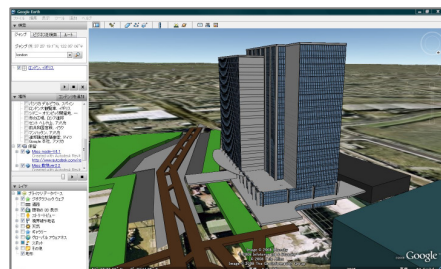
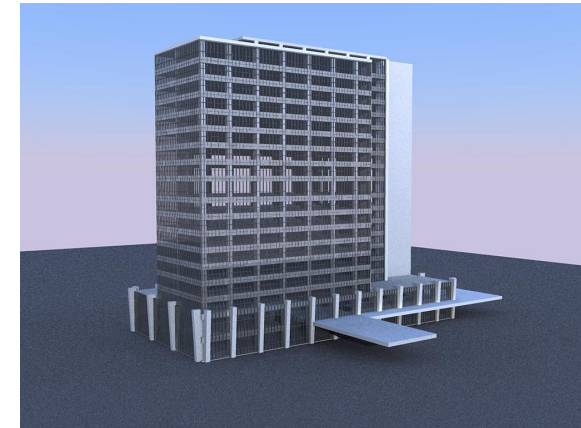
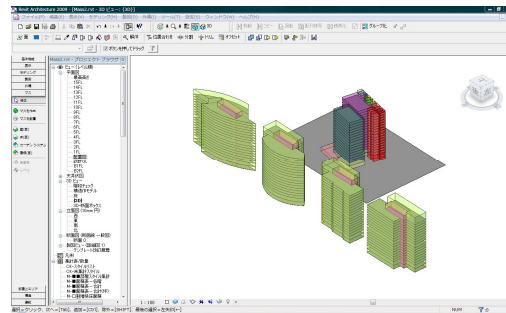
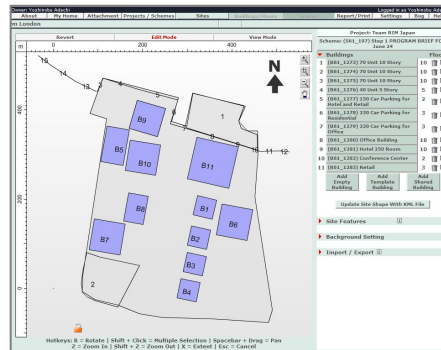


NORWAY Team BIM Vikings scheme

produced in 48 hours

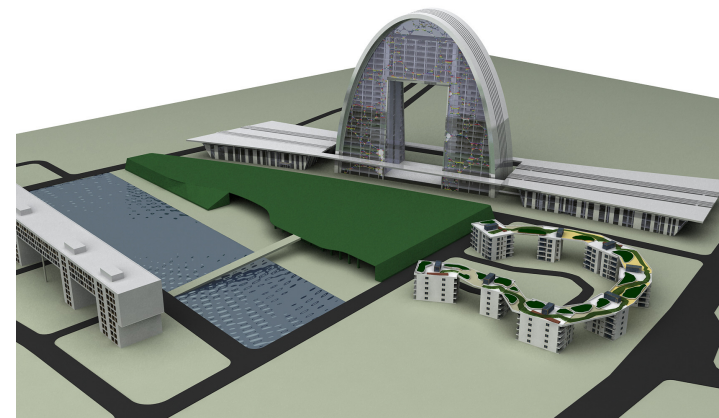
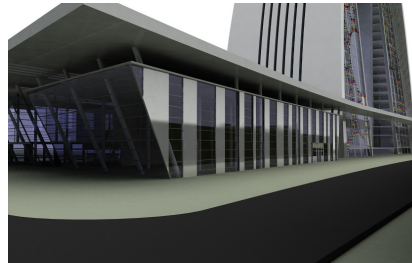
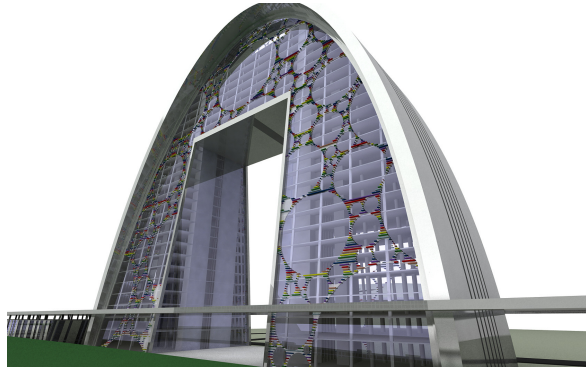


JAPAN Team BIM Japan scheme produced in 48 hours



KOREA Team Seoul BIM Forum scheme

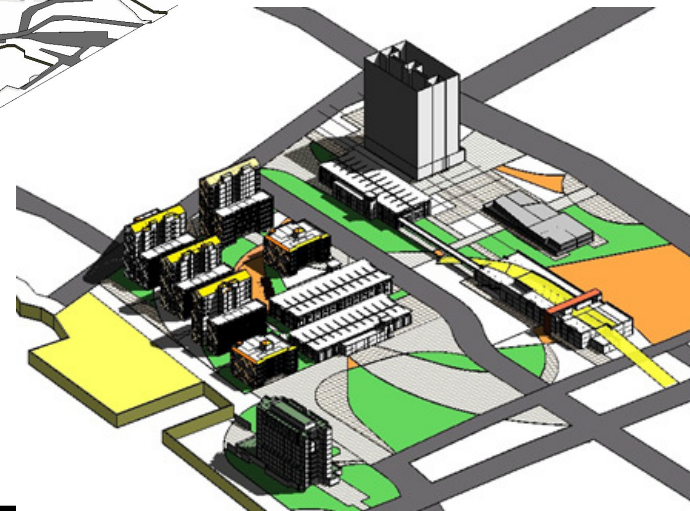
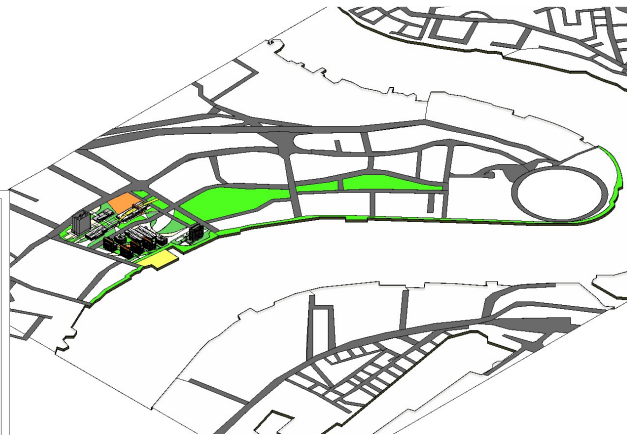
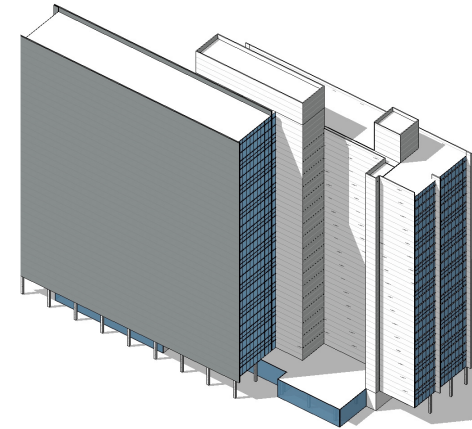
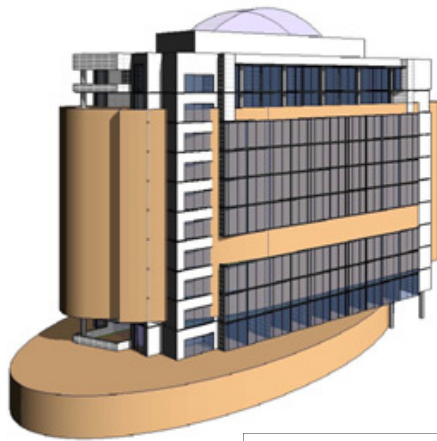
produced in 48 hours



Produced in 48 Hours

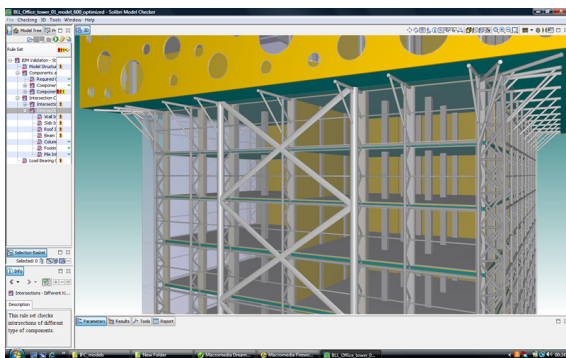
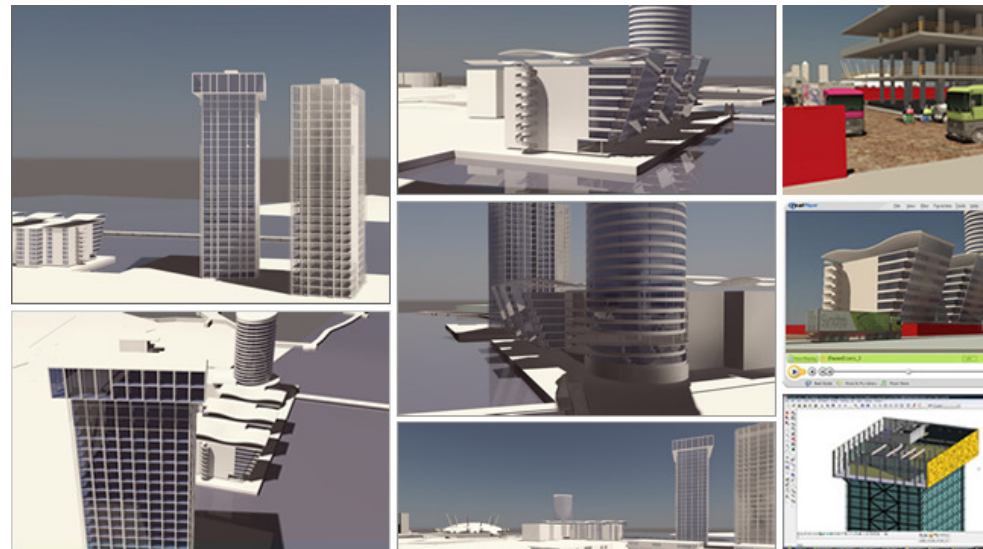
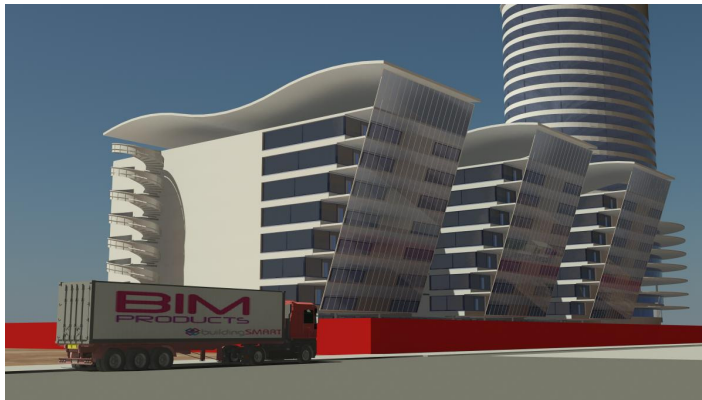
KOREA Team Omega scheme

produced in 48 hours



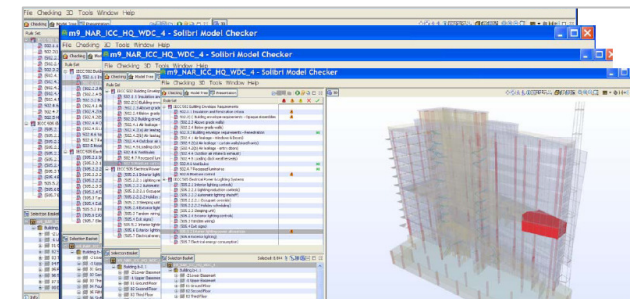
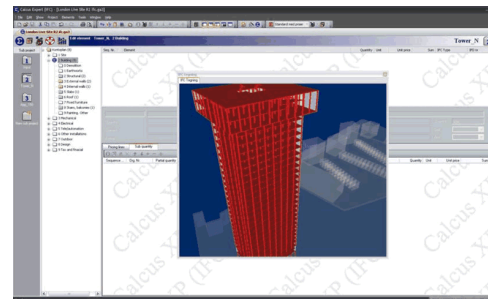
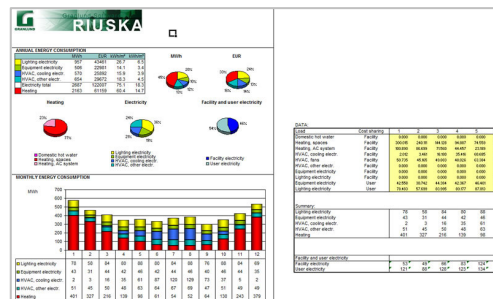
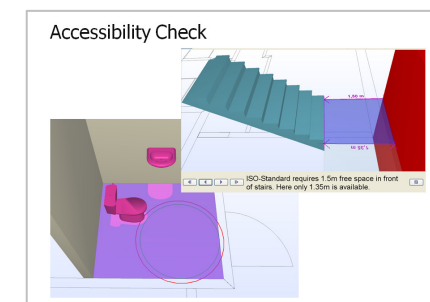
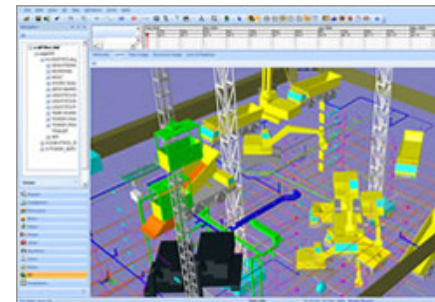
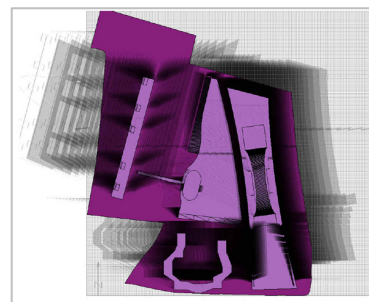
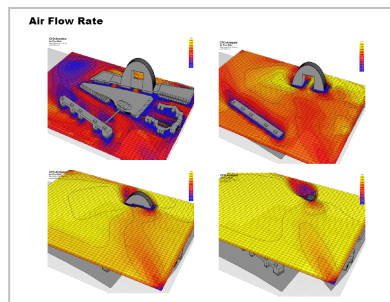
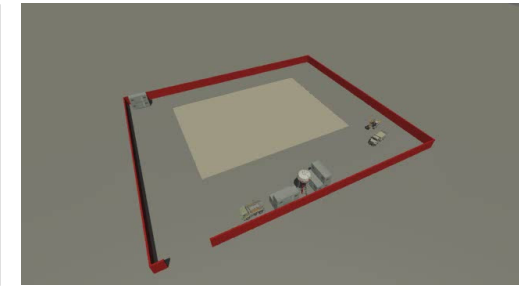
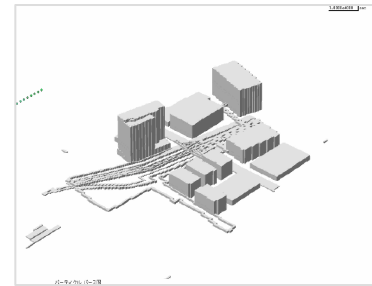
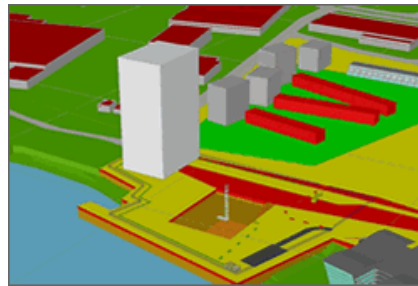
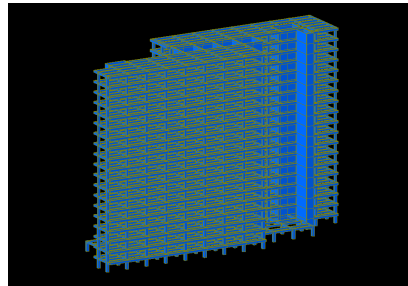
UK Team BIM Products scheme

produced in 48 hours



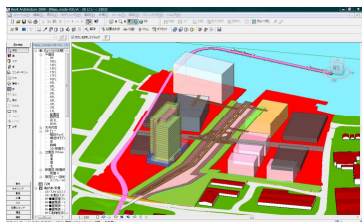
ANALYSIS - BIMs

Structural Deflection, 4D Constructability, Sun, Wind, Shadow, Air Flow, Integrity Checking, Accessibility, Cost, Energy - produced in 48 hours

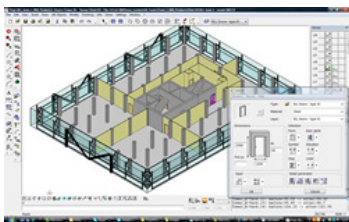


MULTIPLE DISCIPLINES

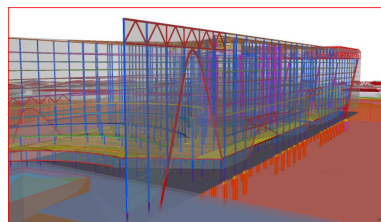
One BIM is used by architectural, structural, piping, HVAC, energy analysis, CFD... disciplines



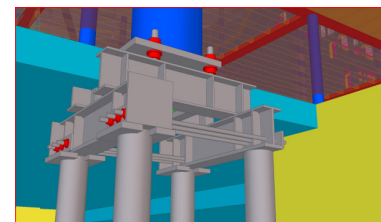
Master Planning



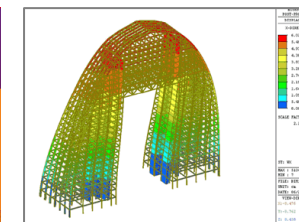
Architectural Design



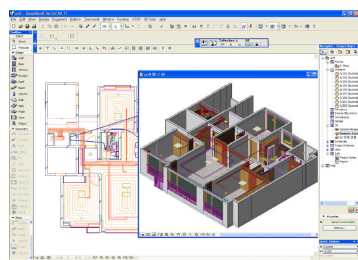
Structural Engineering



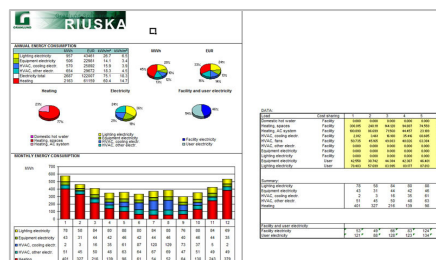
Structural Detailing



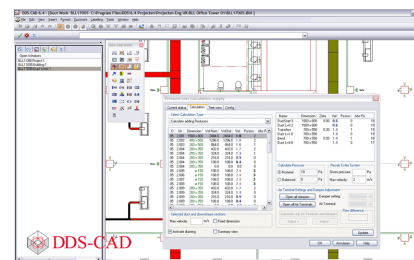
Stress Analysis



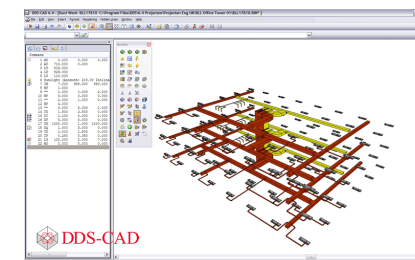
MEP Building Services



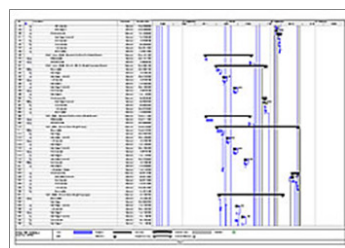
Energy Calculations & Costs



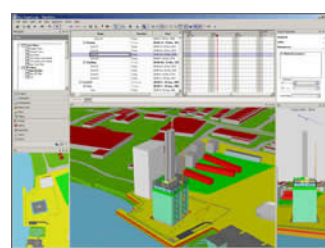
HVAC System Calculation



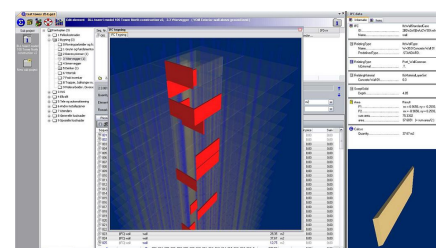
HVAC System Design



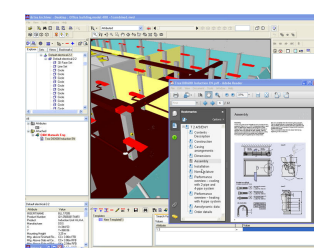
Planning & Programme



Constructability - 4D



Cost Calculations



Facilities Management

CONCLUSION

What did BII2008 Prove?

- o The amazing power and results that can be achieved through digital collaboration
- o The technology is mature and robust
- o That staggering increases in productivity are possible through BIM
- o Numerous organisations have the technology and the required skills
- o Collaboration is enhanced by Interoperability through Open Standards & interchangeable software
- o BIM promotes collaboration between companies, disciplines, stakeholders, and across international and language borders



NEXT GLOBAL COLLABORATION

Build LONDON Live 2009