



## Buildoffsite Property Assurance Scheme ( BOPAS)

Terry Mundy, Lloyd's Register and Jeff Maxted, BLP



Lloyd's Register  
Energy

Working together  
for a safer world

# Development of BOPAS – Steering Group



# About Lloyd's Register

Founded in 1760

Global independent risk management and safety assurance organisation

Our enduring mission statement has been to enhance the safety of life and property

Principal role - verification and validation of the integrity of the design and construction:

- Ships
- offshore rigs
- nuclear power stations
- railway systems
- construction



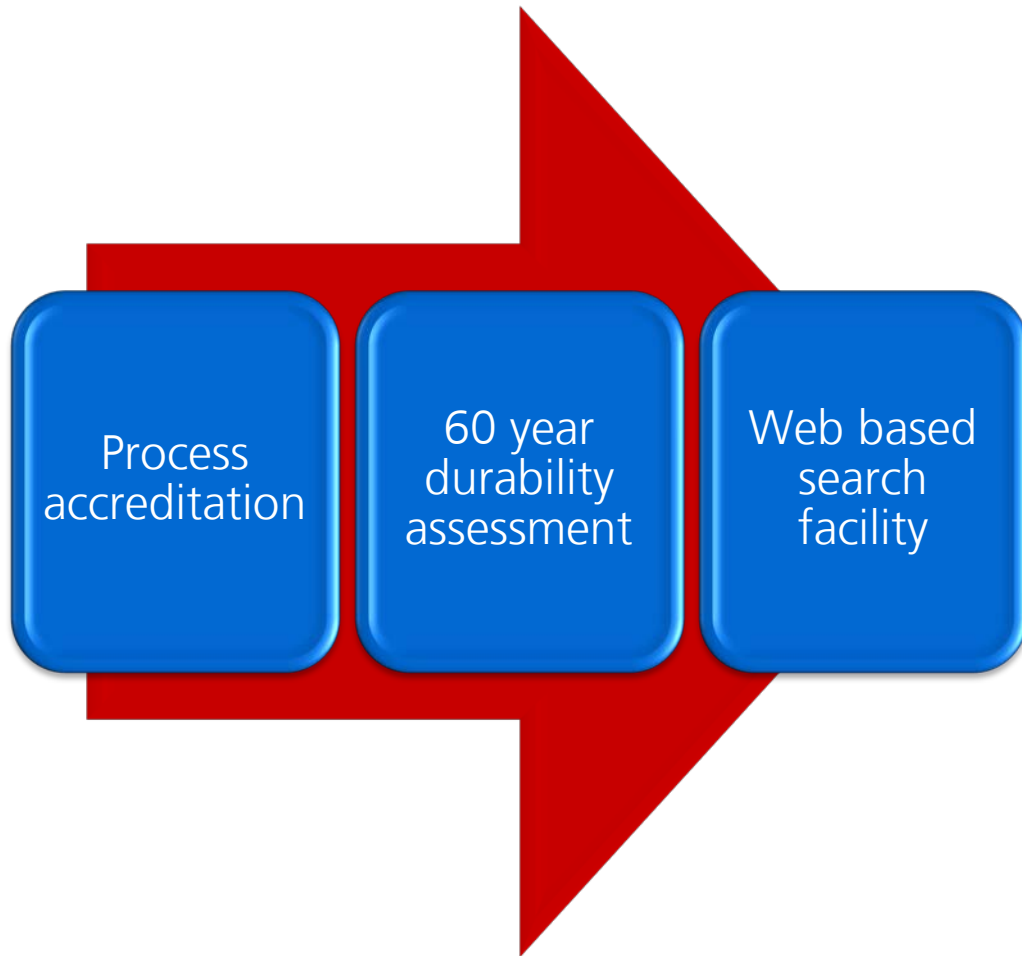
# Why Non Traditional Construction Systems are the way forward

- [https://www.youtube.com/watch?v=5spMZ\\_w6WVM](https://www.youtube.com/watch?v=5spMZ_w6WVM)

# Non traditional Construction System Risk

- Business/technical risks to **manufacturers**
- Availability of mortgage finance risk to **developers**
- Construction system durability risk to **lenders**
- Uncertainty of construction system risk to **valuers**
- Life cycle costing risk to **homeowner/property investors/Lenders**
- Adequacy and access to latent defect insurance risk to **homeowners/property investors/Lenders**

# BOPAS – What does it involve?



# BOPAS Accreditation



Process  
accreditation

60 year  
durability  
assessment

Web based  
search facility

# Risk Based Approach





# Process Accreditation - 1st Stage

## Gap Analysis



## Interview based

- 1to1interviews with key staff
- Verbal feedback
- consensus approach
- Detailed report
- Findings log

# Manufacturer and Constructor's risks – Business and Technical



## Process Accreditation

- Risk Management
- Process Control
- Procurement Management
- Competency Management
- Configuration Management
- **Product risk**

# Examples of Deficiencies Identified

## assessment findings log

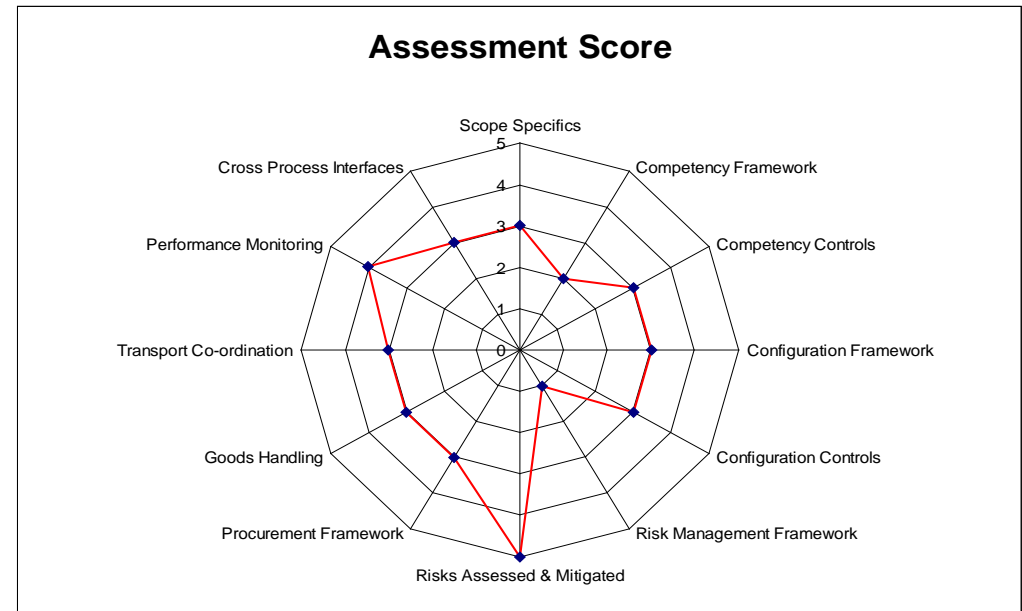
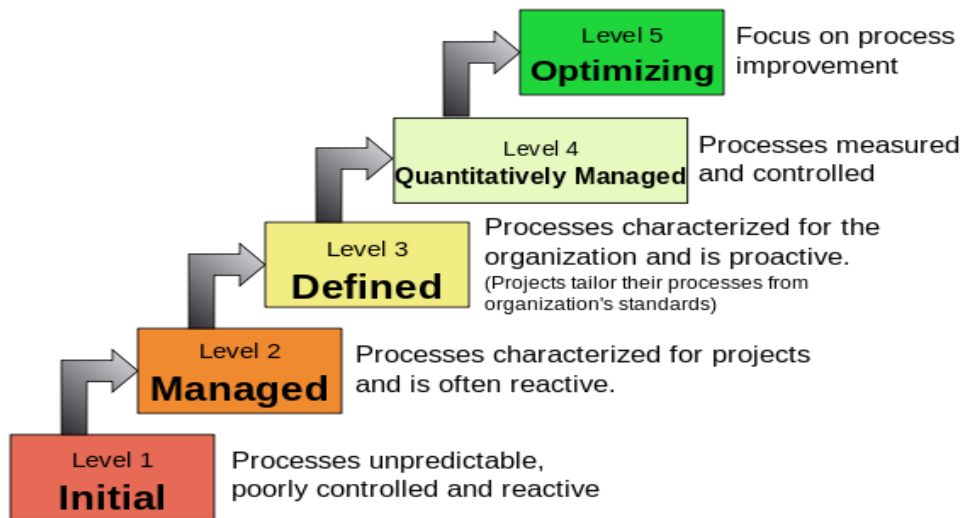
Ref	Grade	Status	Requirement	Finding	Current Situation	Date Closed
002	Major NC	Open	Process Control – Project Management, Procurement, Transport and Storage	(At Gap) Major Non-Conformance (Major NC.....shall ensure that their audit programme considers <u>all</u> activities undertaken by a service provider or supplier including the design, manufacturing, transport, construction, project management, maintenance, refurbishment and disposal. The audit programme shall be based on the results of a risk evaluation of the service provider and suppliers activities, targeting those at highest risk to .....in compliance with the BuildoffSite scheme. Should an inadequate audit programme be identified by Lloyd's Register particularly for single, sole suppliers or service providers (such as .....), then Lloyd's Register will conduct audits of all such key suppliers		
004	Major NC	New	HR, Training and Competency	At Gap – (Major NC) – ..... need to develop, document and complete a competency process (to include a competency and training matrix) for all management and operational positions (including contracted out consultants and tradespeople where relevant).		
008	Major NC	New	Configuration Management	At Gap – (Major NC) – .... need to develop, draft processes and flowcharts detailing the concept, design, manufacture and construction of standard house designs, one off designs and the typical project process.		
009	Major NC	New	Process Control – Design and Manufacture	At Gap – (Major NC) –..... processes should be able to satisfy BOPAS Project Management (Design and Manufacture) requirements independently and be repeatable with any design consultants and manufacturer.		

# Examples of Deficiencies Identified

Ref	Grade	Status	Requirement	Finding	Current Situation	Date Closed
015	Major NC	New	Transportation	At Gap – (Major NC) – ..... require a process and formal procedure for the transportation of products between off-site and on-site locations.		
019	Major NC	New	Risk Identification, Assessment and Control.	At Gap – (Major NC) – Lessons learned (risks and opportunities) from completed projects need to be captured and recorded with evidence of communication to relevant depts.		
025	Major NC	New	Process performance monitoring	At Gap – (Major NC) – ..... is required to build and formalise a key performance indicator process for i) the quality of their product and ii) the performance of their business.		
028	Major NC	New	Performance, Monitoring and Improvement	At Gap – (Major NC) – A formalised reporting and logging system with a process for root cause analysis and rectification needs to be included and documented.		

# Quantitative Evaluation

## Characteristics of the Maturity levels



# BOPAS Accreditation



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# Developer risk – assurance of mortgage finance

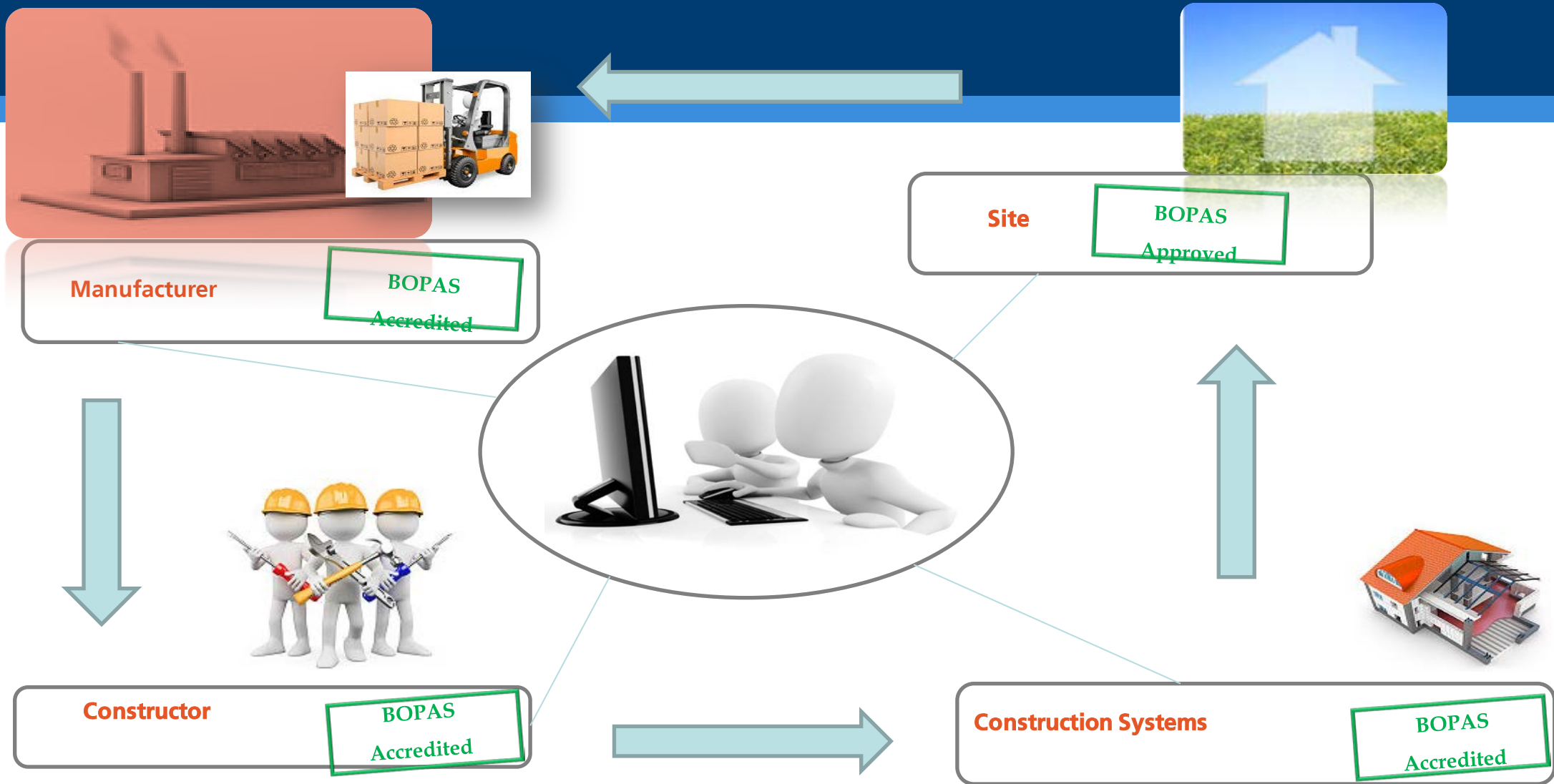
Developer meets Lender



Demonstrates BOPAS accreditation trail







# BANK



**Mortgage finance agreed in principal as the construction system  
BOPAS Accredited**

# Valuer Risk – awareness of construction system



# Non traditional Construction System Risk

- Business/technical risks to manufacturers - **Process accreditation**
- Availability of mortgage finance risk to developers - **Overall BOPAS process**
- Construction system durability risk to lenders - **60 year durability assessment**
- Uncertainty of construction system risk to valuers – **web based data base**
- Life cycle costing risk to homeowner/property investors/Lenders – **BLP through life cost development process**
- Adequacy and access to latent defect insurance risk to homeowners/property investors/Lenders – **BLP warranty**

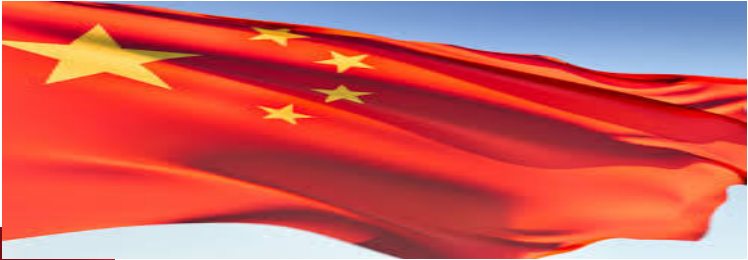
# Buildoffsite Property Assurance Scheme



## **BOPAS**

The only direct and most cost effective route from design concept to development site

# Manufacturers Accredited /under assessment



# An Investor's Perspective of BOPAS



- *The BOPAS scheme will be an integral part of any credible organisations offer, when producing any Offsite/MMC products. It is key in providing the surety and insurance backed guarantee a long term property investor requires, when investing in a property that utilises modern technologies and products."*
- *Bill Hughes - Head of Real Assets, Legal and General investment Management*

# RICS Perspective of BOPAS



'The Royal Institute of Chartered Surveyors has actively supported and facilitated the development of BOPAS and fully supports the web based database that enables members to access constructed systems data and therefore to value offsite constructed properties from a more informed perspective '



# Lender Endorsement of BOPAS



- *Lenders take into account the views of other professionals as part of their decision as to whether to lend on properties which are built with modern, innovative methods. BOPAS, which was developed with lender input, can assist lenders by providing assurance to lenders and other professionals, about non-traditionally constructed properties which lenders may be asked to lend on.*

**Terry Mundy**  
**Business Development Manager**  
Lloyd's Register EMEA  
T +44 (0)7712 787 851 E [terry.mundy@lr.org](mailto:terry.mundy@lr.org)

71 Fenchurch Street, London EC3M 4BS



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