

≡ NHBRC

INNOVATIVE BUILDING TECHNOLOGIES

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CENTRE FOR
RESEARCH
AND
HOUSING
INNOVATION

NATIONAL BUILDING REGULATIONS

NHBRC MANDATE

as derived from
HCMP Act No. 95 of 1998

WHAT :
ASSURE
QUALITY OF HOMES

- HOW :**
- PROTECT INTERESTS OF THE HOME OWNER
 - REGULATE THE HOME BUILDER

National Building Regulations and Building Standards Act (Act 103 of 1977)

Objects of Act

National Building Regulations
(Functional Mandatory Regulations)

- Safety,
- Health,
- Accessibility, and
- Protection of Building

Compliance with Mandatory Rules

Deemed-to-satisfy Rules <ul style="list-style-type: none"> ▪ SANS Codes e.g. SANS 10400, SANS 10401 ▪ NHBRC Home Building Manual 	Rational Design by Competent Person	Performance based methods <ul style="list-style-type: none"> ▪ Agreement SA Certificate
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protect property and the general **safety, health and convenience** of the public in relation to the erection of homes;

design and construct homes which are not harmful to the health or well-being of users and occupiers; and

ensure that certain solutions that are adopted for homes **contribute positively to environmental sustainability.**

THE ROLE OF NHBRC IN IBTs



- DEFINE REGULATORY AND PROCUREMENT INTERVENTIONS TO PROMOTE AND IMPROVE THE QUALITY OF IBT
- ADVISE KEY STAKEHOLDERS ON THE PERFORMANCE OF IBT

BENEFITS

- IMPROVE SKILLS
- REDUCE RISKS
- IMPROVE MATERIAL RESEARCH AND DEVELOPMENT

NHBRC TOOLS



**IBT IMPLEMENTATION
GUIDELINES**



IBT DATABASE



IBT ANALYSER



**IBT INSPECTION
CHECKLIST**



CAT TOOL

**INNOVATIVE
BUILDING
TECHONOLOGIES**

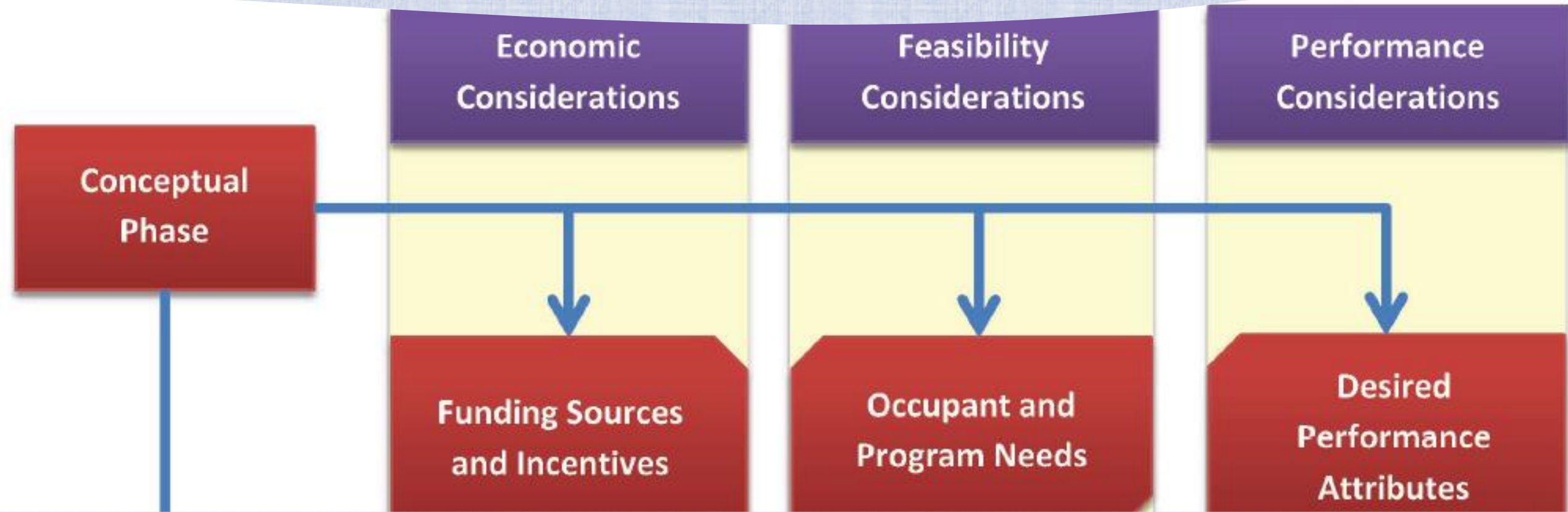
PROBLEM STATEMENT

- **Masonry construction is currently predominantly used within South Africa, even though there are many certified IBTs available.**
- **A misconception exists within South Africa that IBTs (certified building systems excluding masonry) have inferior overall performance to that of masonry building.**
- **However, whilst some IBTs perform satisfactorily, this may not be universally true across all applications or all climatic zones.**



THREE MAJOR TYPES OF ANALYSIS

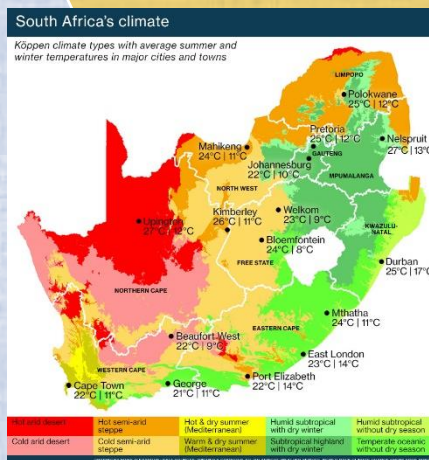
- An economic analysis would be performed to determine and identify all costs associated with the technology and project to make the most cost-effective decision.
- A feasibility analysis would be performed to determine if a particular technology is applicable and compatible with the project or building.
- A performance analysis would help determine whether the technology will achieve the goals and objectives of the project.



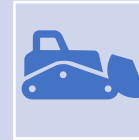
THE WEB BASED IBT ANALYSER TOOL

Selection of appropriate IBT systems

IBT ANALYSER



The Web Based IBT analyser tool serves as an aiding decision-making tool for the Home Building sector stakeholders to make well-informed selections and decisions during procurement of IBTs.



The tool will assist all the key stakeholders in the construction industry to compare several building systems for suitability and performance.



The Tool considers several specifications and categories such as climatic context, region of the proposed site, as well as performance characteristics of the systems, for use in the home-building sector. Furthermore,



The tool facilitates the identification of the technology deemed most appropriate in accordance with the set of user-defined criteria and thereby enhance selection and decision-making processes.

IBT tool what is it?

It is an IBT-based building systems database that includes detailed information on various IBT building systems based on Agreement certificate.

The database was further developed into a tool that evaluates the most suitable IBT systems that will perform well in specific energy zones based on 10 performance factors:

- Thermal performance
- Acoustics performance
- Condensation performance
- Fire performance
- Durability performance
- Supply chain factors: Lead time flexibility
- Economies of scale
- Local labour force
- Distance from suppliers
- Accessibility from road

IBT Select

Install App

Dashboard

Administration

200 km

SA Map

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The screenshot shows a web application interface for 'IBT Select'. The top navigation bar is blue and contains a hamburger menu icon, the text 'IBT Select', and utility icons for 'Install App', a speech bubble, a dropdown arrow, and a user profile icon labeled 'sbole'. A dark sidebar on the left contains 'Dashboard' and 'Administration' with a right-pointing arrow. The main content area is a map of Southern Africa, color-coded by region. Labels include 'SOUTH AFRICA', 'ESWATINI', and 'LESOTHO'. Major cities like Cape Town, Johannesburg, and Durban are marked with stars. A scale bar for 200 km is in the bottom left, and a 'SA Map' checkbox is checked. The bottom right corner has copyright text: '© MapTiler © OpenStreetMap contributors'. A vertical toolbar on the right side of the map contains icons for zooming in (+), zooming out (-), home, location, and other map controls.

Tool
demonstration

-Thank you-

