

Welkom

ir.ing M. (Mirjam) Steins - Zwanenburg

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Content

- How did we start?
- Who we are?
- What we do?





- No government organisation, No company
- Started in 1930 by law (the TNO-law)
- ZBO (zelfstandig bestuursorgaan),
Independent administrative body

STAATSBLAD

VAN HET

KONINKRIJK DER NEDERLANDEN.

(N^o. 416.)

WET van den 30sten October 1930, tot
regeling van het toegepast-natuurweten-
schappelijk onderzoek.



2025 - 6 Units

(circa 4500 medewerkers)



Unit Mobility & Built Environment

In 1954 bundles TNO it's building activities

- TNO-IBBC: Instituut voor Bouwmaterialen en BouwConstructies

Build Environment related Research departments (250 employees)

- | | |
|-----------------------------------|-----|
| • Reliable Structures | RS |
| • Building Materials & Structures | BMS |
| • Building & Energy Systems | BES |
| • Naval & Offshore Structures | NOS |
| • Digital Built Environment | DBE |

Societal challenges

Material scarcity

Housing shortage

Road closures &
Traffic jams

Ageing structures

Delayed building projects

Emissions and
regulations

Growing Economy

Climate change



Role Building Materials & Structures



Development of new sustainable materials and structures



Optimal use and sustainable renewal of the existing structures

BUILDING MATERIALS & STRUCTURES

FUTURE
PROOF

CIRCULAR &
SUSTAINABLE

CONCRETE
STRUCTURES

CEMENTITIOUS
MATERIALS &
NATURAL STONE

BUILDING
INNOVATION
LAB

ROAD MATERIALS
& PAVEMENT
ENGINEERING

BIO-BASED
MATERIALS &
STRUCTURES

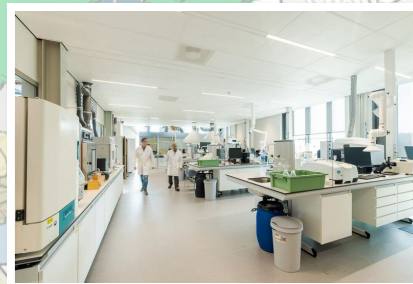
KNOWLEDGE
CLIENTS
GOVERNMENT

TNO

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for life

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BUILDING INNOVATION LAB

FUTURE
PROOF

Why?

Facilitating fundamental experiments to get a deeper understanding of materials and structures.

How?

Conditioning & accelerated ageing

Mechanical tests

Psychochemical tests

Optical tests

ROAD MATERIALS
& PAVEMENT
ENGINEERINGLIVING
LABKNOWLEDGE
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What kind of projects do we do?



Replacement & Renovation

- More accurate assessment of existing bridges and viaducts, based on:
 - Structural behaviour
 - Resistance and degradation
- Develop standards and guidelines for engineering firms.



But also ...

- Expand the service life of concrete elements and structures
- Develop advanced assessment, safety philosophy and design guidelines for reclaimed concrete elements
- Develop and evaluate low carbon cementitious materials
- Renewable raw materials & reused road materials.
- Develop biobased substitutes in new binders using lignin for asphalt roads
- Develop, test and evaluate long term durable biobased construction by developing a classification method for the use of reclaimed wood.



Thank you and enjoy the evening...

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