



# Our national foundation challenge and the need for innovation

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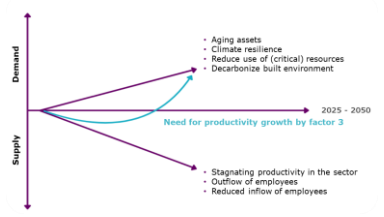
## Our national challenges for the built environment...



### Challenging national numbers (~4-8% of EU)

- We need to accelerate by factor 2x – 3x:*
- Realize +100.000 new houses per annum
  - Decarbonize 8 million existing houses
  - Decarbonize 1 million buildings
  - Renovate over 80.000 bridges
- With challenging targets:*
- Significantly reduce emissions by 2030 (~40% of total CO2 emissions), implement EBPD IV + ...
  - **A climate resilient built environment**
  - 50% circular and fully circular by 2050

### Productivity growth for better outcomes



## TKI Bouw en Techniek leading consortium for knowledge and innovation in the built environment



- Our position in the ecosystem:*
- Open innovation between government, market and research
  - System integrator connecting missions, programs, platforms and ecosystem for scalable impact
- Our way of working*
- Directing and leveraging public innovation funding (regional, national, European) to accelerate and scale
  - Initiating and steering mission-driven national programs and enabling cross-cutting platforms



## Our national foundation challenge



- "A societal crises in slow motion"**
- 450.000 houses, 5.000 urgent
  - growing to €50 billion impact
  - climate change is accelerating the issue

- "the elephant(s) are under the room"**
- collaboration needed between governance and sector
  - financial, information, communication and governance challenge
  - national program for foundations established





The innovation challenge



- Current sector
- Capacity: 1000 houses per annum
  - Relative small market with predominantly SME's
  - Scattered market with limited innovations due to nature of work
  - Scarcity in skilled professionals and limited specific education
  - No predictable and sizeable deal flow for market, case by case
  - No significant investments in innovation and productivity

Conclusion:  
need for government supported national innovation program



The foundation innovation program



- Stimulate and support innovation**
  - Funding for public – private consortia
  - Stimulate investments
  - Accelerate development and validation
- Build a stronger ecosystem**
  - Knowledge sharing and collective learning
  - Connect ecosystem with new entrants
  - Learn from international best practices
- Create conditions to scale**
  - Human capital
  - Supporting policy and standards
  - Stimulate predictable and new deal flows

**Selection of current public – private projects**

**Foundations insight**

This project applies InSAR satellite data to detect ground movement at city scale and link deformation patterns to soil and foundation types. In parallel, eDNA analysis explores groundwater-based detection of timber pile decay, enabling earlier, faster and non-invasive risk assessment.

**Non-destructive subsurface inspection**

A new inspection method based on shear-wave imaging (adapted from medical acoustics) enables non-destructive assessment of shallow soil strength and submerged timber foundations. The technique offers scalable, in-situ diagnostics for buildings on soft soils and civil infrastructure, reducing the need for invasive investigations.

Published today: the innovation call\*



- Focused on research, development and validation of innovations:
  - Timber pile foundations;
  - Shallow foundations affected by ground subsidence, for example on peat or soft clay soils;
  - Shallow foundations on shrink–swell sensitive soils, such as clay or loam
- We look for innovations that:
  - Extend lifetime of foundation/ re-use
  - Reduce time and cost
  - Raise productivity
  - Are scalable by design and/or have insights in what is required for adoption
- Budget: €2.7 million; financed by the Ministry of internal affairs
- Open for existing players and new entrants

For more information see website TKI Bouw en Techniek:  
<https://tki-bouwentechniek.nl/programmas/kennis-innovatieprogramma-funderingsproblematiek/>

\*Dutch legal entity required

Thank you for your attention!



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