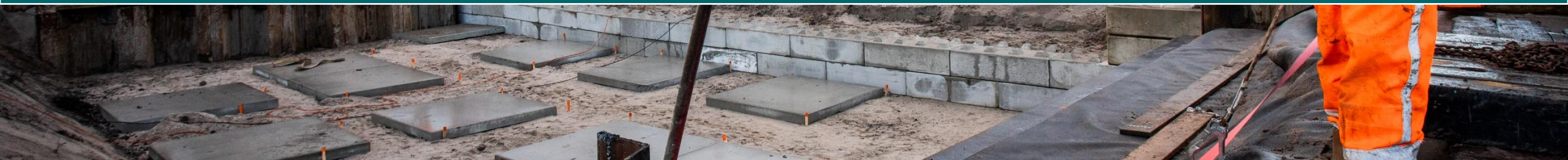




# #EUCircularTalks

## Closing the loop for European Supply chains in Construction: how?

Evert Schut    Rijkswaterstaat



# #EUCircularTalks - Closing infrastructure material cycles through European cooperation

## Quick introduction

- Evert Schut
- Sr. Specialist circular economy working for Rijkswaterstaat, the Dutch National Roads and Waterways Authority
- In 2016 Rijkswaterstaat formulated climate ambitions, and something new:
  - To be “working in a fully circular manner” by 2030
  - It was up to the team I work in to find out what this means and how to implement it.
  - Something we clearly can’t do alone



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## Let me start with an example:

- Where in Europe do they still produce bitumen (for asphalt paving)?
- High level recycling of asphalt (from top layer to top layer) with recovery rates of 80% and more is technically and economically feasible
- High level recycling significantly lowers the CO2 impact of asphalt
- Bio-based alternatives for bitumen are a promising development in parts of Europe

More than enough reasons to “go circular”.



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Rijkswaterstaat circular viaduct

## Another example

- Rijkswaterstaat is a large client in the infrastructure sector.
  - +/- 5000 viaducts in our highway network
  - many of which need to be replaced in the next 20 years
  - Often before their technical maximum life span
- If we want to buy a “circular viaduct” on the EU market: does a manufacturer of concrete elements in Italy or Lithuania know what we mean?
- Can they manufacture it?



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## Lets be a little more specific

The viaduct needs to be:

- Designed for long lifespans: adaptable, easily maintainable and repairable,
- Detachable at construction-, element- and material levels
- Modular for re-use of elements
- Recyclable for full recovery of materials for next life cycles
- We need a common understanding of:
  - How to measure and assess circularity
  - How to actually design, build, maintain, repair, re-use and recycle a circular viaduct
  - How to test materials, products, elements and constructions for circular technical requirement in different life cycle stages
  - Required flows of information

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## We need EU circular standards!

- The good news: CEN TC 350/ Sc1 sub-commission on circular construction
  - General standards with framework, definitions and measuring circularity
  - 'Horizontal' technical standards for other technical commissions to implement (e.g detachability)

## But will standardisation be enough?

- Clients can no longer make waste, but become supplier of high quality resources for our next circular viaduct
- This is a whole new challenge for both clients and Industry
- We need to sit down and work together to make this happen. Not just 'cradle to gate', but cradle to cradle, to cradle to..... etc.
- But how?



## Value chain initiatives

- Dutch “Concrete Green Deal” (2011), and the follow up “Concrete Accord”.
- (private) Value chain initiative: no government policy!
- It helped the concrete sector to:
  - focus on sustainability priorities
  - make an actual deal with governments (national and local) concerning:
    - Specific CO2 reduction goals (50% reduction in 2030)
    - Specific recycling goals (100% concrete to concrete in 2030)
    - Circular design
- Similar initiatives have been started for asphalt, steel and timber value chains
- But all at the Dutch national level. A question I’d like to leave you with is this: should we start something similar at a European level?