

# Dit Bly Mensewerk

Lessons from the two-phase Pannerdensch Canal Project

**HOPE Congress, Cape Town**

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## Dit Bly Mensewerk

- > Title of the book containing results of the 4-year evaluation of the Krib- and Oeververlaging Pannerdensch Canal project.
- > Groyne and bank lowering to increase flood safety in the Netherlands by lowering the water level in the Upper Rhine.
- > Focus for my presentation:
  - > The 18 lessons that were formulated as a result of a 4-year evaluation (in 6 rounds).



<https://www.vitaleinfrasector.nl/nieuws/2752791.aspx?t=Leren-van-de-ervaringen-van-het-project-KOP>



## Who am I?

- > Pau Lian Staal-Ong
- > Mother of two adult girls
- > Project management consultant & trainer AT Osborne since 2002
- > Involved in large transport infrastructure projects since 1999

### My hobbies:

- > 2023 – (...) Member External Advisory Board University College London (UCL) MBA in Major Infrastructure Delivery
- > 2020 – (...) Member Supervisory Board Ing Yoe Tan Fund/Prince Claus Fund for Culture and Development
- > 2016 – (...) Member Advisory Board, Master Project Management, University of Applied Sciences Utrecht
- > 2007 – 2024 Coordinator/Team Lead Assessor/Trainer IPMA Project Excellence Awards, co-author IPMA Project Excellence Baseline

# AT Osborne focus areas



## Sustainable living environment

Area development

Energy transition

Climate adaptation



## Healthy society

Housing and real Estate

Strategy & finance

Project & programme management



## Future-proof infrastructure

(Smart) Mobility

Lightrail & metro

Renovation projects

Road & hydraulic engineering

# AT Osborne clients



**National  
Government**

**Provinces**



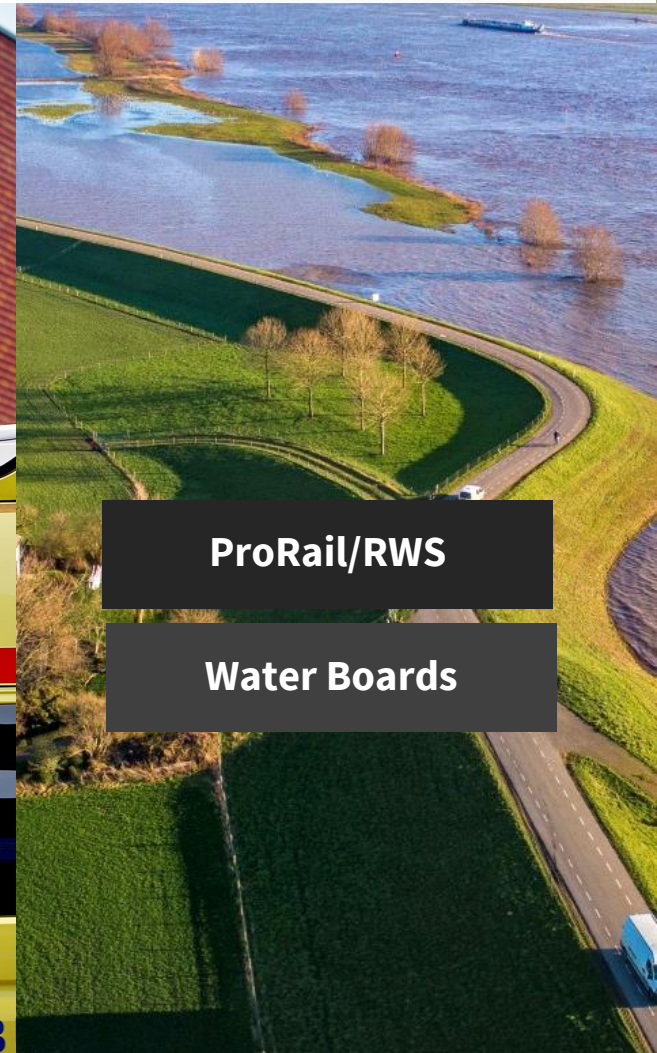
**Municipalities**

**Transport regions**



**Hospitals**

**Universities**



**ProRail/RWS**

**Water Boards**

# Projects I'm currently involved in



## NETLIPSE

- Client/sponsor network for the delivery of large infrastructure projects in Europe, since 2006
- Network Meetings, (Infrastructure Project Assessment Tool) IPAT® Assessments and training
- [www.netlipse.eu](http://www.netlipse.eu)
- Director since 2010



## PALLAS Reactor Project

- New nuclear reactor for medical isotopes
- Delivery: 2030
- Budget: €1.8 bn
- Member Programme Office, Organisation & Strategy consultant since 2022



## Zuidasdok Programme

- Undertunneling of the A10 highway in Amsterdam and expansion of the WTC Zuid train station
- Delivery: 2036
- Budget: €4.7 bn
- Member Programme Controls Team, Integration Manager/Team Coach since 2024

# The Pannerdensch Canal Project



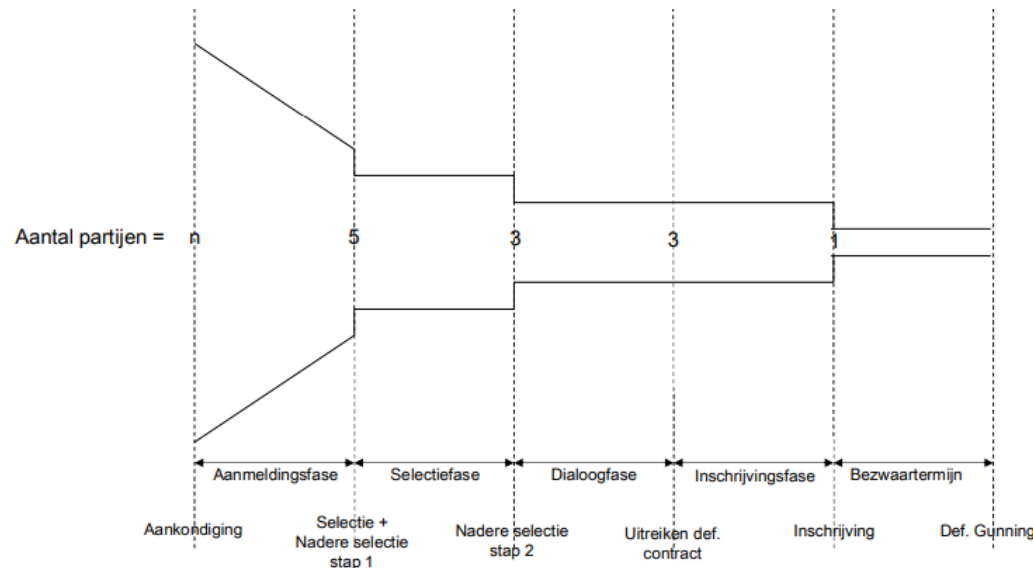
# Krib- en Oeververlaging Pannerdensch Kanaal

A brief overview



# The Pannerdensch Canal Project

- > Purpose: to lower the water level by 5cm in the Bovenrijn during high water to protect 2 million people in the river area.
- > By lowering 35 groynes and 5 banks in the Pannderdensch Kanaal between 1,4 and 1,7m.
- > Planning phase: 3 years (2018 – 2021); realisation phase: 1,5 years (2022 – 2023).
- > Budget: €18,3 m.
- > The tender process:



Figuur 9: Schematisatie van de aanbesteding

## Why a two-phase approach?

- > Efficienter (ground) investigations. The groynes in the area were constructed 125 years ago; area data is incorrect.
- > The probability of a feasible design is greater.
- > Sustainability opportunities can be taken advantage of in a better way, such as re-use of materials.
- > By involving the market in arranging the permits, the permits with input from practitioners, will likely endure.
- > By collaborating on the specification process with the contractor, you make use of each others' strengths. The market brings experience and capacity; the client an existing network in the environment and knowledge of that environment.

# The Pannerdensch Canal Project

- > Rijkswaterstaat and Ploegam were responsible for the realisation of the project scope: to realise a water level decrease in the Boven-Rijn.
- > One of the first applications of a two-phase contract (Plan, Design and Construct contract, PDC) for Rijkswaterstaat.
- > The contract covers the plan development and realisation phase of the project.
- > The project is a pilot for Rijkswaterstaat, based on the following values:
  - > Maximizing customer value;
  - > Honest money for honest work;
  - > Optimal cooperation;
  - > Working from the intention and learning.
- > To learn from the project, improve the instruments and future working methods of Rijkswaterstaat, a four-year evaluation took place.

## The four contract 'specials'

- > The DOEN philosophy: working from the intention and striving for optimal cooperation.
- > Early contractor involvement (PDC contract) and integration of two project phases in one contract:
  - > From the preferred alternative, one assignment for the plan development phase and project realisation phase with a go/no-go decision between these two.
- > Deferred pricing in accordance to the two-phase approach:
  - > As starting point a *fixed price* for the plan development. The price for the realisation phase follows after the plan development, on the basis of *dominant cost posts* and to be determined risk allocations, documented in a *Risk Allocation Document* (RAD).
- > Creating a *cooperation budget* that Rijkswaterstaat and the contractor Ploegam can use for the client demands process, conditioning investigations, social relevance and welfare measures.

# Our research framework for the evaluation

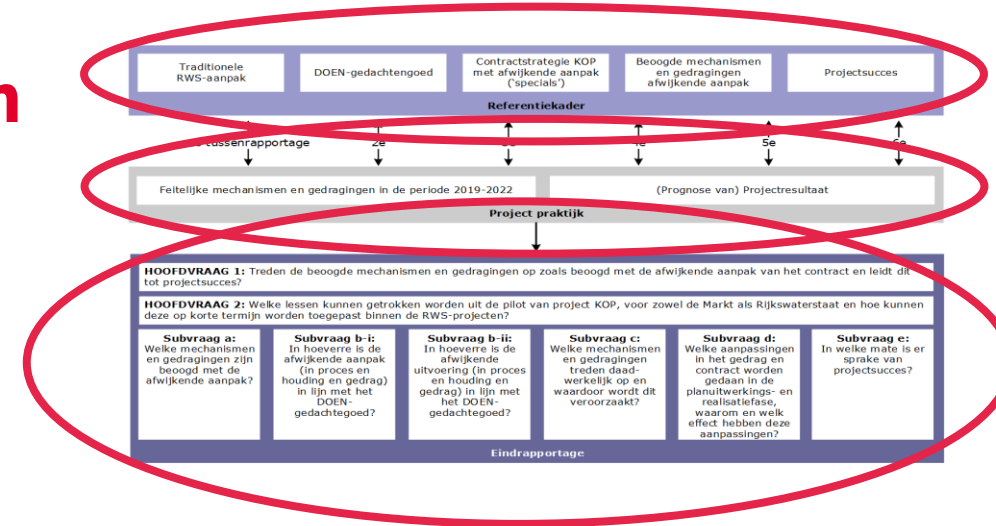
## > Frame of reference

- > Traditional Rijkswaterstaat approach
- > The DOEN ideas (co-design the purchasing process)
- > KOP contractstrategy with a different approach ('specials')
- > Intended mechanisms and behaviour different approach
- > Project success

## > Project practice

## > Evaluation main questions

- > Do the intended mechanisms and behaviours of this different approach occur as intended and does this lead to project success?
- > Which lessons can be formulated from the KOP pilot project for the market and Rijkswaterstaat and how can they be applied in RWS-projects?
- > (There were 5 more sub questions to be answered.)



# Our approach

- > A research mix of data sources and methods of data gathering:
  - > Desk research
  - > Project Barometer (early warning signs)
  - > Observing ('fly on the wall')
  - > Interviews
  - > Group sessions

		Databronnen						
		Documenten	RWS teamleden	Ploegam teamleden	RWS IPM teamleden	Ploegam IPM-teamleden	RWS specialisten	Markt externe specialisten
Methode van data verzameling	Deskresearch	x						
	Enquêteren		x	x	x	x		
	Observeren				x	x		
	Interviews				x	x	x	x
	Groepssessies				x	x	x	x

# The lessons of the KOP project



## 18 lessons were defined in 11 specific areas

- > The planning phase: getting used to and getting to know each other.
- > The cooperation budget.
- > The dominant cost posts.
- > The price-setting process.
- > The risk allocation document (RAD).
- > Realisation and realisation plan.
- > Simultaneous delivery and handover.
- > Mutual cooperation between the project teams.
- > The project and the supporters.
- > Transition and differences between phases.
- > Changes in the project teams.



# The planning phase: getting used to and getting to know each other

## > Lesson 1:

> Its difficult for a designing party to really understand what the Rijkswaterstaat organisation and other stakeholders find most important and want proof of.

- The Rijkswaterstaat project team usually knows this better. Review the design documents from the market with a 'green pen'. Don't take the traditional inspection role (with a 'red' pen), but provide suggestions in order to improve the quality of the products.

## > Lesson 2:

> A designing market party needs transparency about the process and contents of the project. F.e. about the available project budget. And about other framework information for the planning phase and design process such as acceptance processes and the different roles involved.

- A contractor doesn't necessarily know how this is organised in a planning phase.

# The cooperation budget

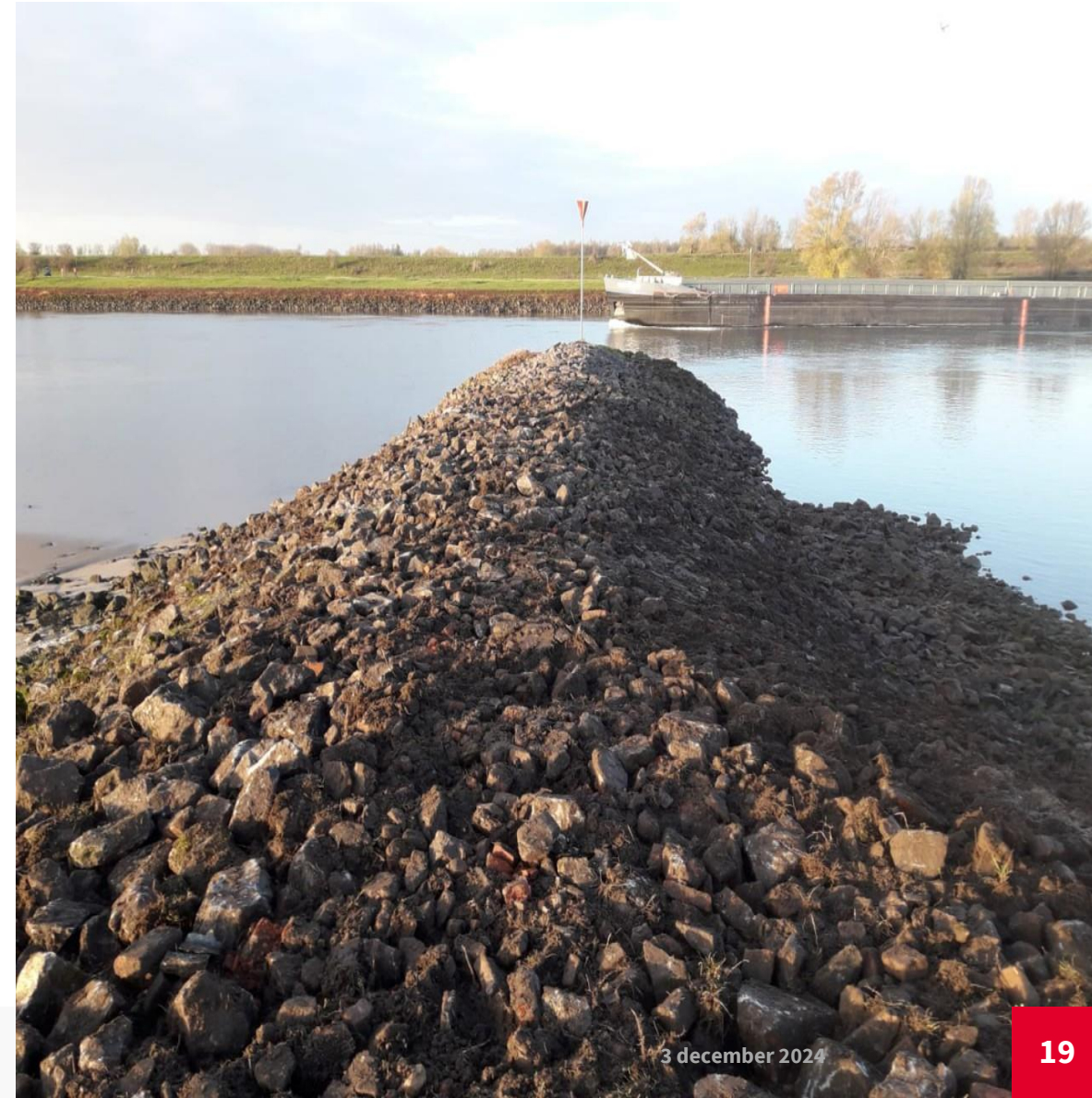
## > Lesson 3:

- > A dedicated 'cooperation budget' in the planning phase, creates flexibility to optimally use everyones knowledge and to carry out the necessary detailed research right the first time.
  - This new contract element requires a clear and common working method which will take time to develop.
  - The added value of the cooperation budget will increase by combining lessons learnt and new knowledge and expertise from both organisations when programming and determining the necessary investigations.
  - In addition to 'no regret' investigations, realisation risks can be better defined.

# Dominant cost posts

## Lesson 4:

- > Applying and requesting dominant cost posts in the tender, in order to use them for the realisation price, can lead to a complicated price forming process.
- Other forms to take price into account, connected to the realisation phase, could be more appropriate. F.e. a cost estimate with a reference design.



# Price-setting process

## > Lesson 5:

- > The interaction between design and intermediary cost estimates needs a lot of attention before and during the planning phase.
  - Ensure that the Cost Specialist and cost calculator are sufficiently involved in the design process, so that information for the cost estimate is available in time.
  - This requires involvement from the Stakeholder and Technical Managers in putting the cost estimate together, testing the starting principles of a specific price and preparing design decisions and potential cost optimisations as a result of the cost estimate.

## > Lesson 6:

- > The role of Cost Specialist at Rijkswaterstaat is essential in two-phase projects. More than is usual in traditional contracts, this Cost Specialist needs project involvement and realisation phase knowledge in order to be able to collaborate with the market party Cost Calculator.
  - A two-phase project demands more content knowledge and a more active role in setting up the calculation compared to inspections.

# Realisation and realisation plan

## > Lesson 8:

- > Create a contract and project culture that allows for optimisations and ‘cleverness’ in the planning and preparation of the execution.
  - Preferably by the head/lead contractor who wil realise the work in the execution phase.



# Simultaneous delivery and handover (oplevering = overdracht)

## > Lesson 9:

- > Appoint a person in the Rijkswaterstaat project team responsible for monitoring the information stream from the asset manager and from the Rijkswaterstaat specialists towards the project team and contractor team.
  - This person should help the contractor understand what is needed in the delivery file.

## > Lesson 10:

- > In a two-phase project, the contractor has the opportunity to develop an earlier (in phase 1) connection with the Asset Manager. Discussions about the delivery and handover process can take place earlier than usual with the contractor and Rijkswaterstaat project team present. This allows for a more efficient process.

# Collaboration between the project teams

- > Lesson 11:
  - > Organising a joint office for the contractor and Rijkswaterstaat project team in the planning phase is good for collaboration and efficiency.
- > Lesson 12:
  - > In a collaborative planning phase, various guiding decisions will be taken. These may not always be fully aligned with everyone's interests, resulting in wavering loyalty to the project.
    - Being aware of this helps to reduce disappointment if it isn't possible to stay on speaking terms with respect to each party's interests.



# The project and the supporters

## > Lesson 13:

- > Strive as client organisation to clarity in management of the project and strive that this happens in line with expectations from the tender process and the chosen collaboration and contract form.
  - Actively work to bring the project and organisation interests together.

## > Lesson 14:

- > Especially when the pressure on the project is high and not every ambition can be filled in automatically, supporters play an important role.
  - Ensure informed and involved supporters that know the contract and cooperation approach rather well.

## > Lesson 15:

- > The manner in which the contractor knows the internal purchasing processes, influences the cooperation when things get tough.
  - Determine beforehand which internal processes and structures can be shared with the contractor.
  - Knowing each others' interests and processes is a starting principle for good collaboration.



# Transition and differences between phases

## > Lesson 16:

- > Introduce a transition period between the planning phase and realisation phase in order to define the roles and responsibilities for the next phase.

## > Lesson 17:

- > It's important to manage expectations with respect to the role division in phase 2, as agreed during the tender and tightened in phase 1.
  - To what extent are parties acting together? What are the differences with a 'regular' project? Etc.



# Changes in the project teams

## > Lesson 18:

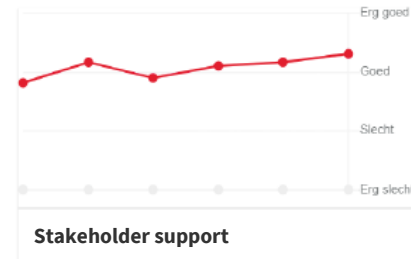
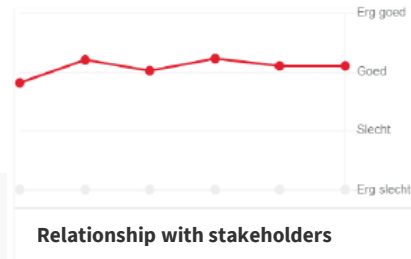
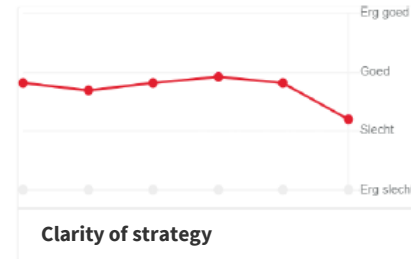
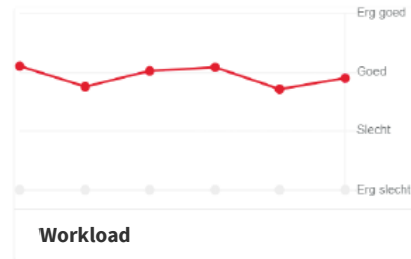
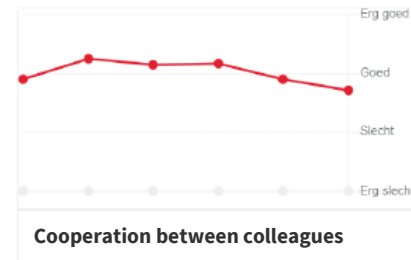
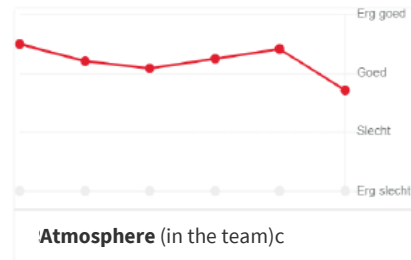
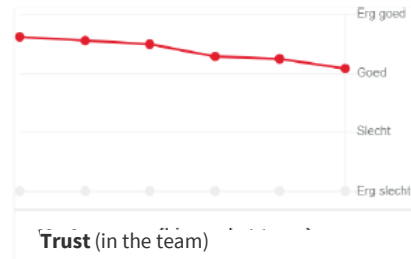
- > A two phase project requires from the mother organisations that necessary competences are reviewed and that there is commitment to retention of team members.
- > At the start of a two phase project, it is important to transfer the information pertaining to the contract mechanisms, agreements and underlying philosophy in a good manner. The inheritance of phase 1 should not be lost.



# Project Barometer

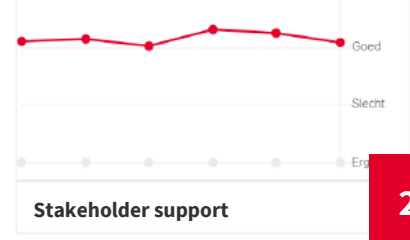
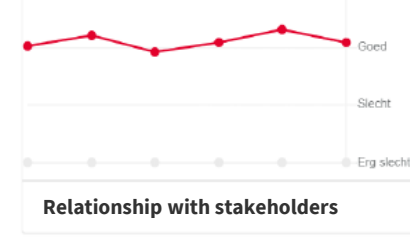
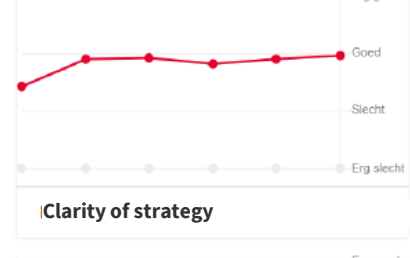
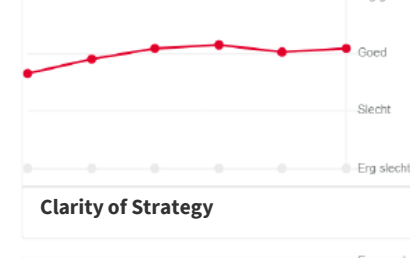
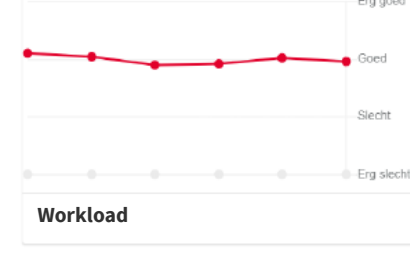
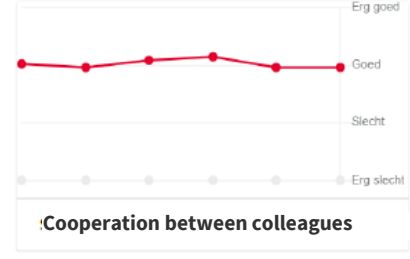
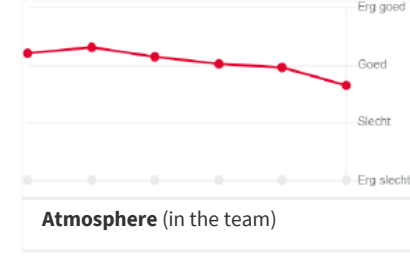
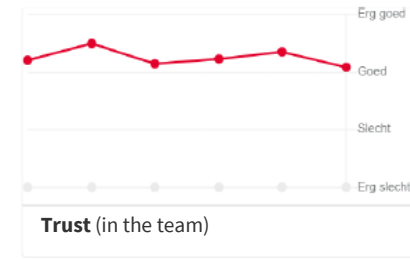
Trend Analysis  
Ploegam

Resultaten van Peiling 1 t/m 6



Resultaten van Peiling 1 t/m 6

Trend Analysis  
RWS



# Interesting references

Interesting to read (it's in Dutch, you'll have to translate it..) about the two-phase integrated contract approach from Rijkswaterstaat:

<file:///C:/Users/PSTA/Downloads/Handreiking%202-fasenaanpak%20bij%20RWS-projecten%20versie%201.0.pdf>

Presentations about Early Contractor Involvement (ECI), you'll need to access the Network Meeting Reports:

<https://netlipse.eu/?s=eci>

Films about the project:

> <https://www.youtube.com/watch?v=OmDHsP0817I>

> <https://www.youtube.com/watch?v=XxIHkq9sl9w>

# Questions?

**Contact me**

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