



Rijkswaterstaat
*Ministry of Infrastructure and the
Environment*

Financing of Water Programmes in the Netherlands

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Rijkswaterstaat: responsible for managing roads and waterways since 1798.

1798 - Rijkswaterstaat established for national coordination on flood protection

19th century - Rijkswaterstaat digs almost 500 kilometres of new canals. King William I also invests in new polders and improvements to existing waterways (for trade purposes).

Increase of people living under sealevel (up to -12 meter)



Long history of water management

Illustrated by the Province of North Holland



around 1580



around 1700



2000



Dutch challenge: flood protection

- Delta of 3 major rivers
- 50% of the Netherlands below sea level





1953 Great Flood & Deltaworks

Collapse of weakened dyke system. More than 1800 people die.

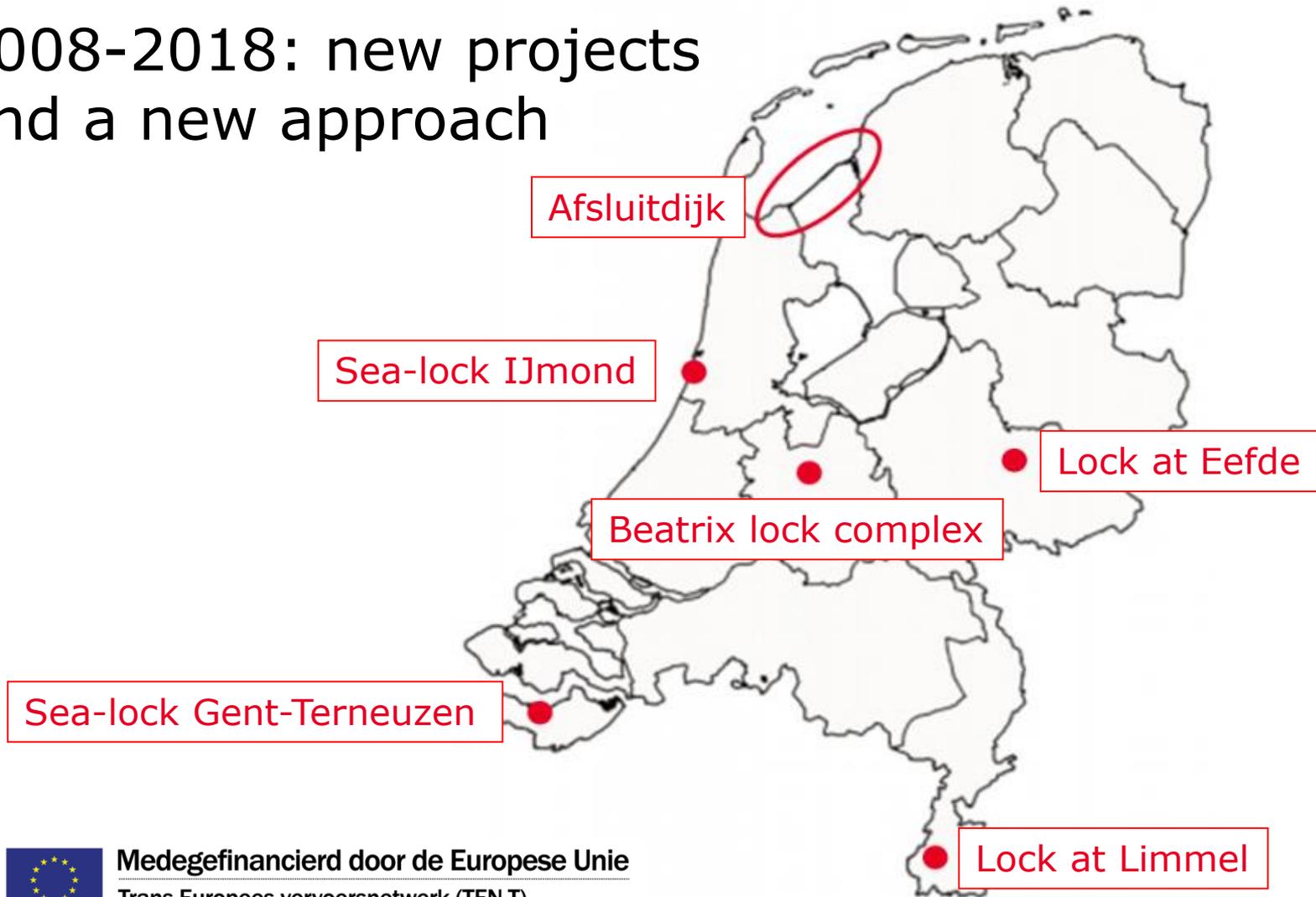
The government decides to build the Delta Works.

Construction of the first element of the Delta Works commenced in 1954 and the final piece, the Maeslant storm surge barrier, was completed in 1997.





2008-2018: new projects and a new approach



Medegefinancierd door de Europese Unie
Trans-Europees vervoersnetwerk (TEN-T)



Lock at Eefde

Building a second chamber in this lock complex
Capex: about € 70 million





Beatrix Lock complex

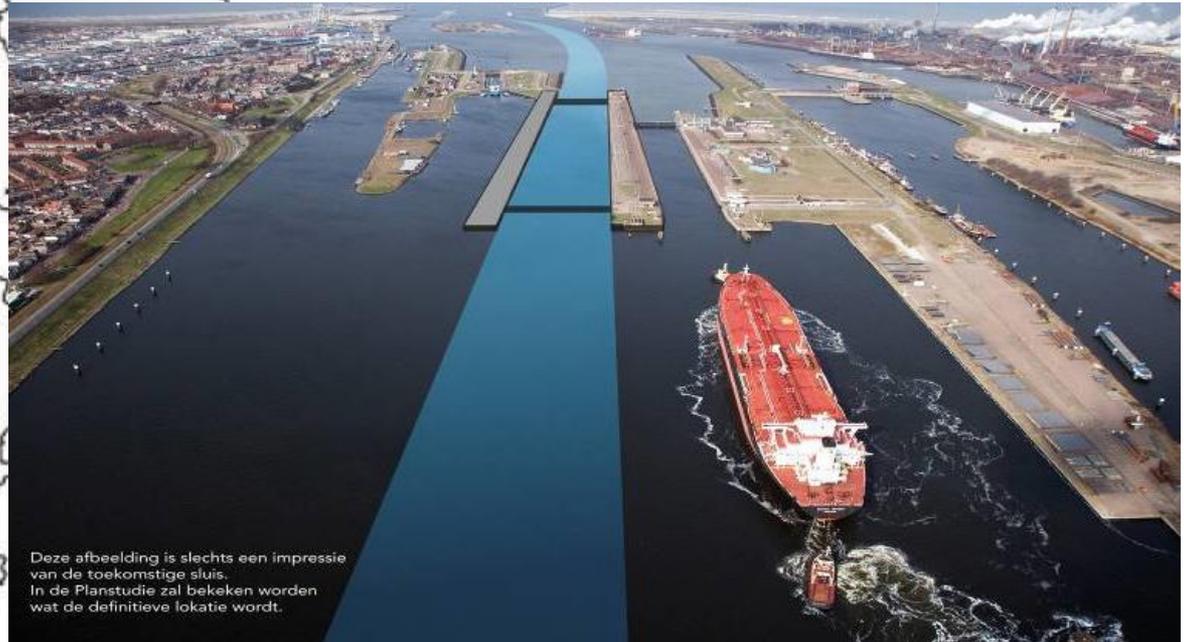
Building a third chamber in this lock complex
Capex: about € 225 million





Sea-lock IJmond

Replacing the existing
Noordersluis by a bigger chamber
Capex: about € 850 million



Deze afbeelding is slechts een impressie van de toekomstige sluis. In de Planstudie zal bekeken worden wat de definitieve lokatie wordt.



Sea-lock Gent-Terneuzen

Building a big sea-lock
in this lock complex
Capex: about € 1.000 million





Afsluitdijk

Strengthening of the dike

Renovation of the structures (sluices & locks)

Capex: about € 800 million





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Performance Regime

Locks in the Netherlands
Update on the New Asset Class

Functions road infrastructure



- Passing traffic
- ...

Functions maritime infrastructure



- Flood protection
- Passing shipping
- Flushing water
- Maintain level separation
- Locking shipping
- Sweet / salt water separation
- ...

Control by availability of functions



Main Challenges

- Differences between locks and roads
 - Locks have more functions
 - Functions have different impact and timing (continue vs. on-demand)
 - Water- and shipmanagement remain Government tasks
- Risks
 - Social risks (f.a. costs of flooding) are far bigger than project costs
- Water law
 - 5-yearly obligation of Authority to theoretically demonstrate the safety of the locks
 - Small amount of (unexpected) non-availability is allowed in the law



Lock at Limmel

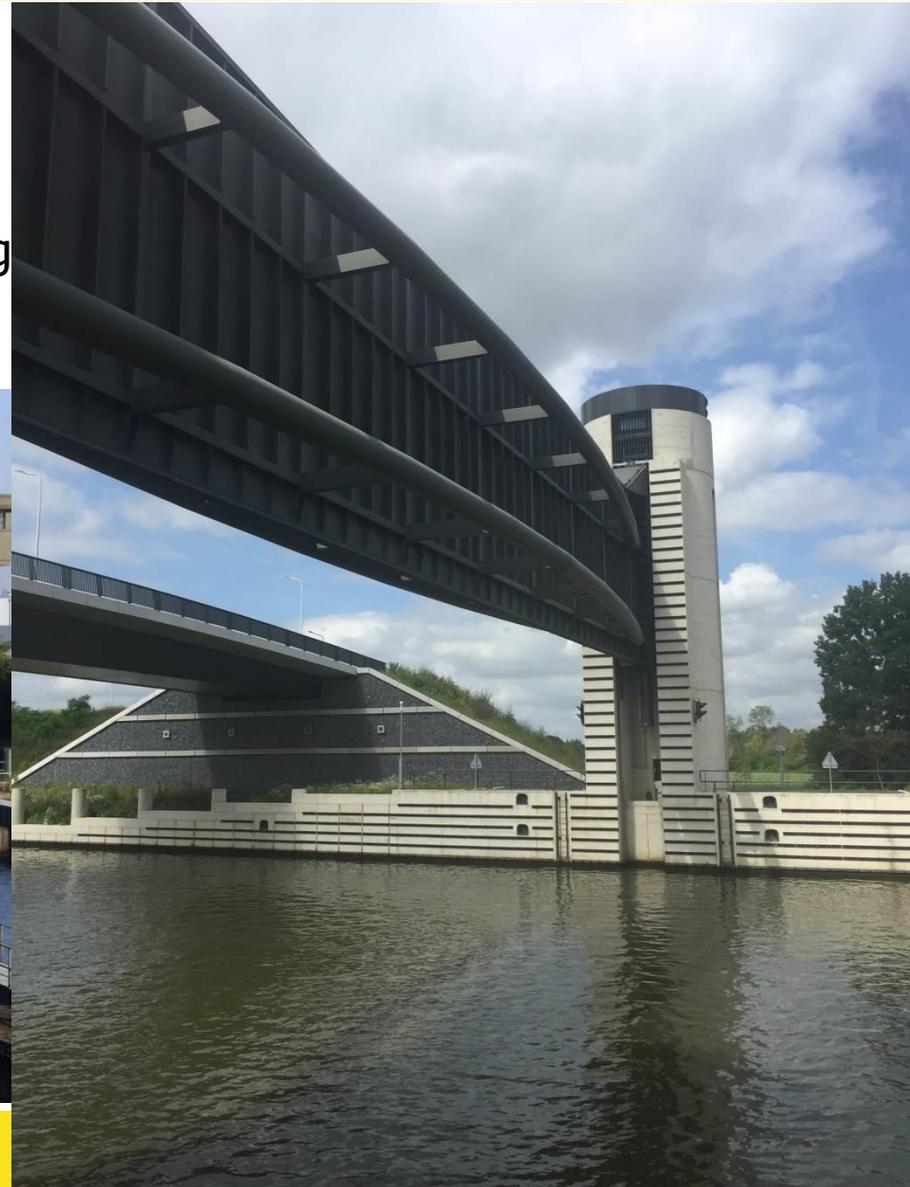
Replacing the existing lock by a floodgate
Capex: about € 60 million





Lock at Limmel

Replacing the existing lock by a floodgates
Capex: about € 60 million





Performance Regime Limmel

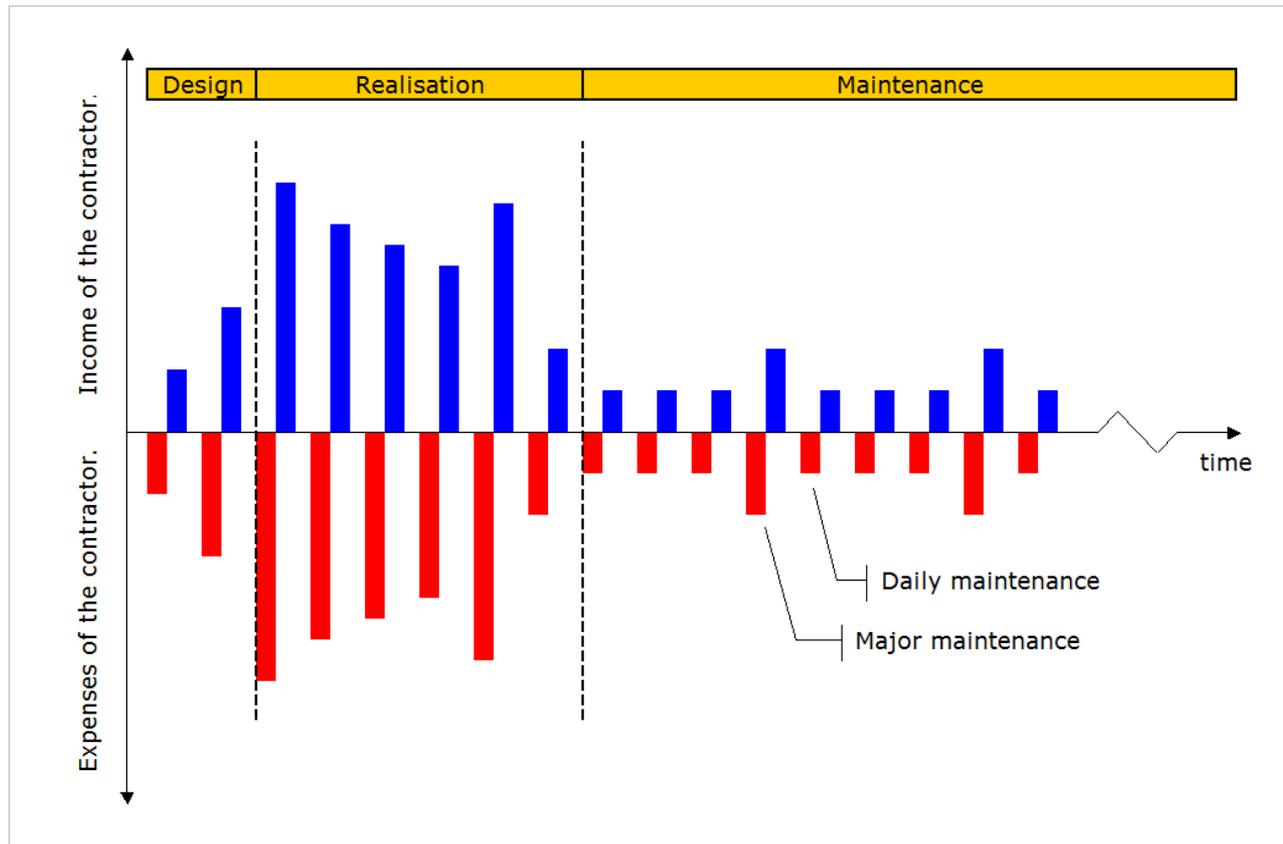
Based on the functions:

- Flooding
 - Closed floodgate within 15-30 minutes
- Passing of ships
 - Available profile of ships (above and under water)
 - Buffer for unavailability (corrective / preventive)



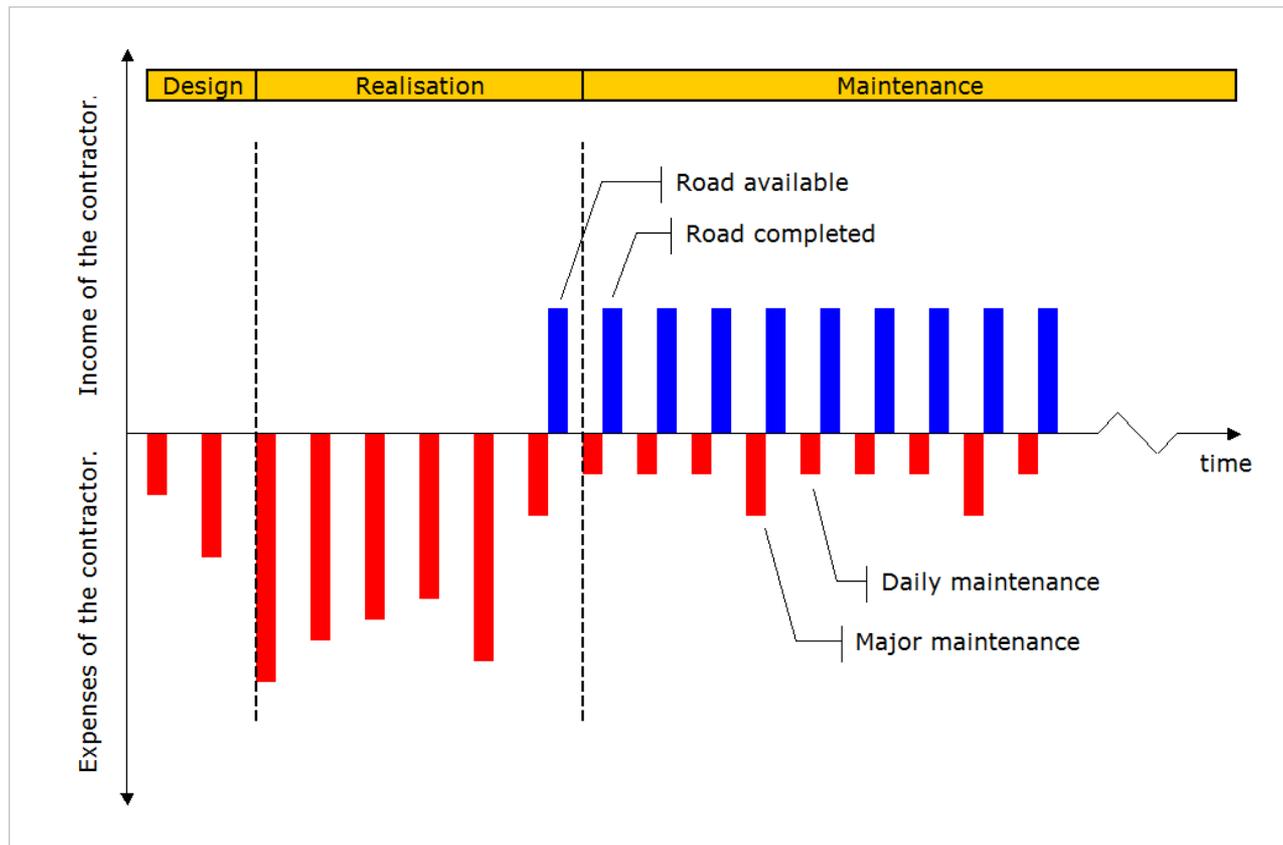


Traditional payment mechanism: DB+M contracts

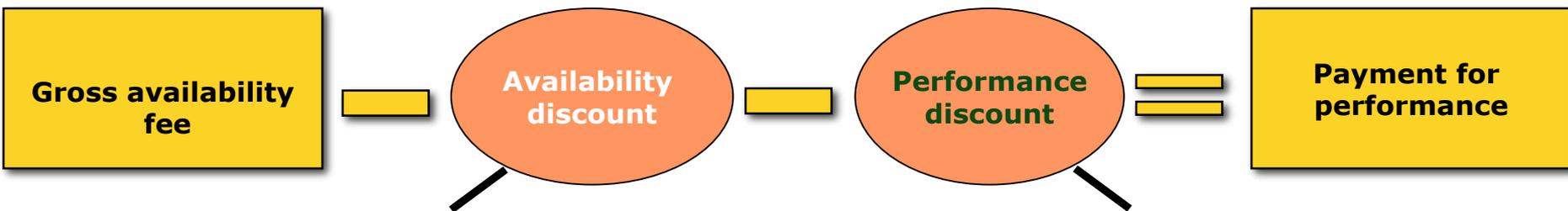
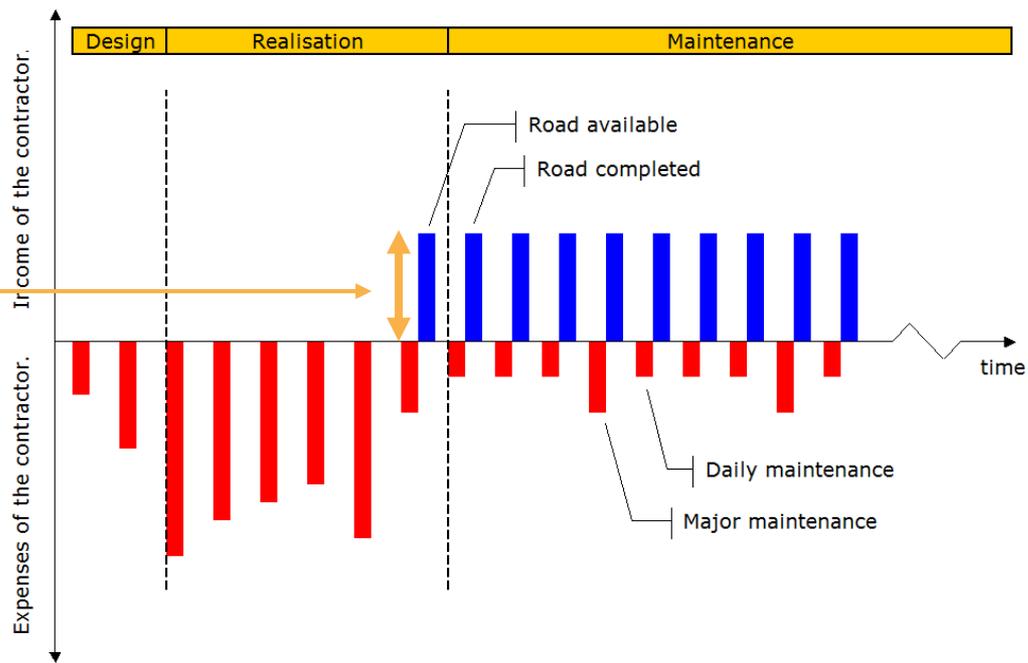




Payment mechanism: DBFM



Payment for performance



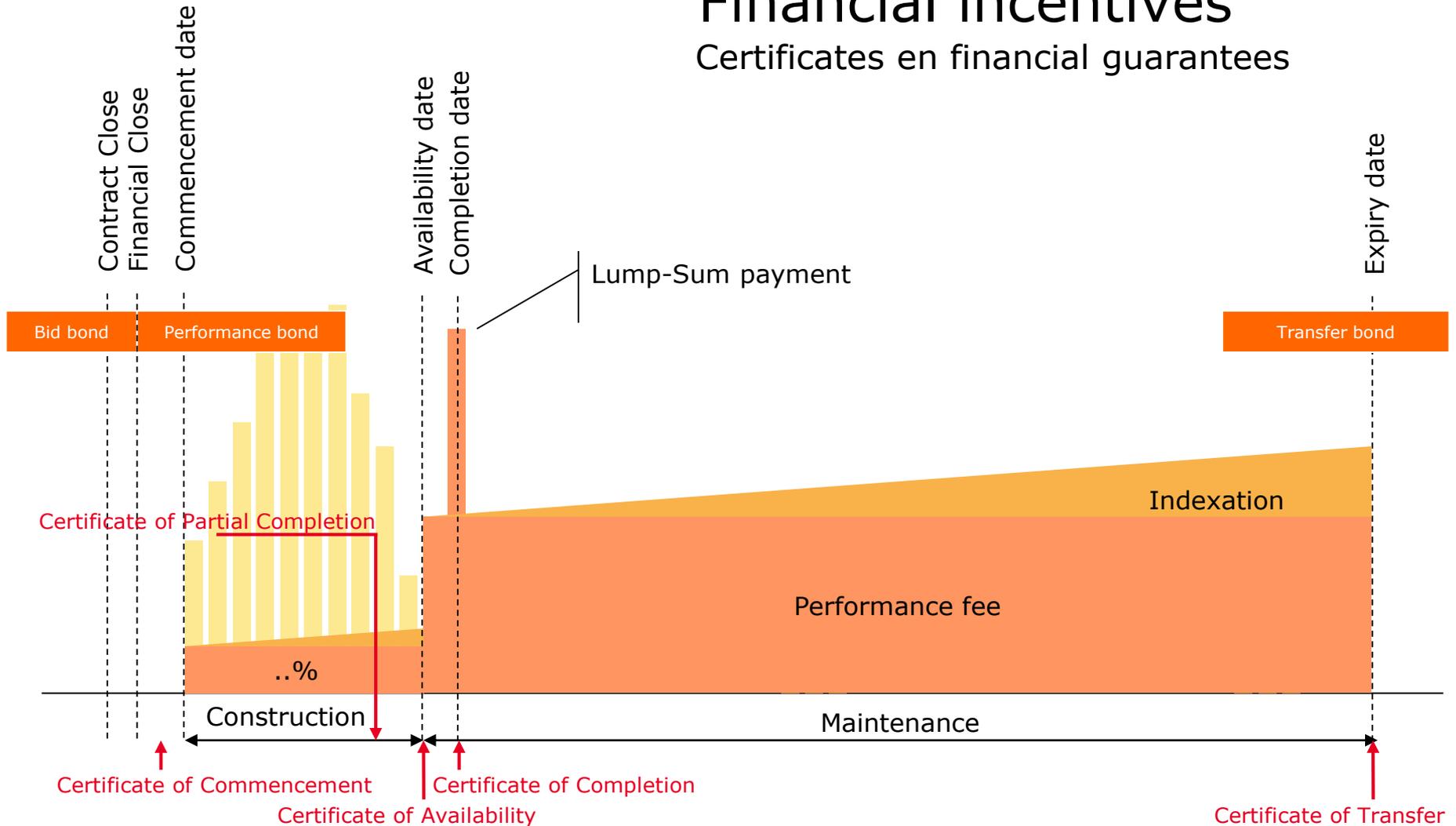
If the road isn't available during contractual agreed time periods the contractor receives a discount

Discount based on quality level and user-safety, not availability



Financial incentives

Certificates en financial guarantees





Colofon

Ministry of Infrastructure and the Environment
Rijkswaterstaat

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