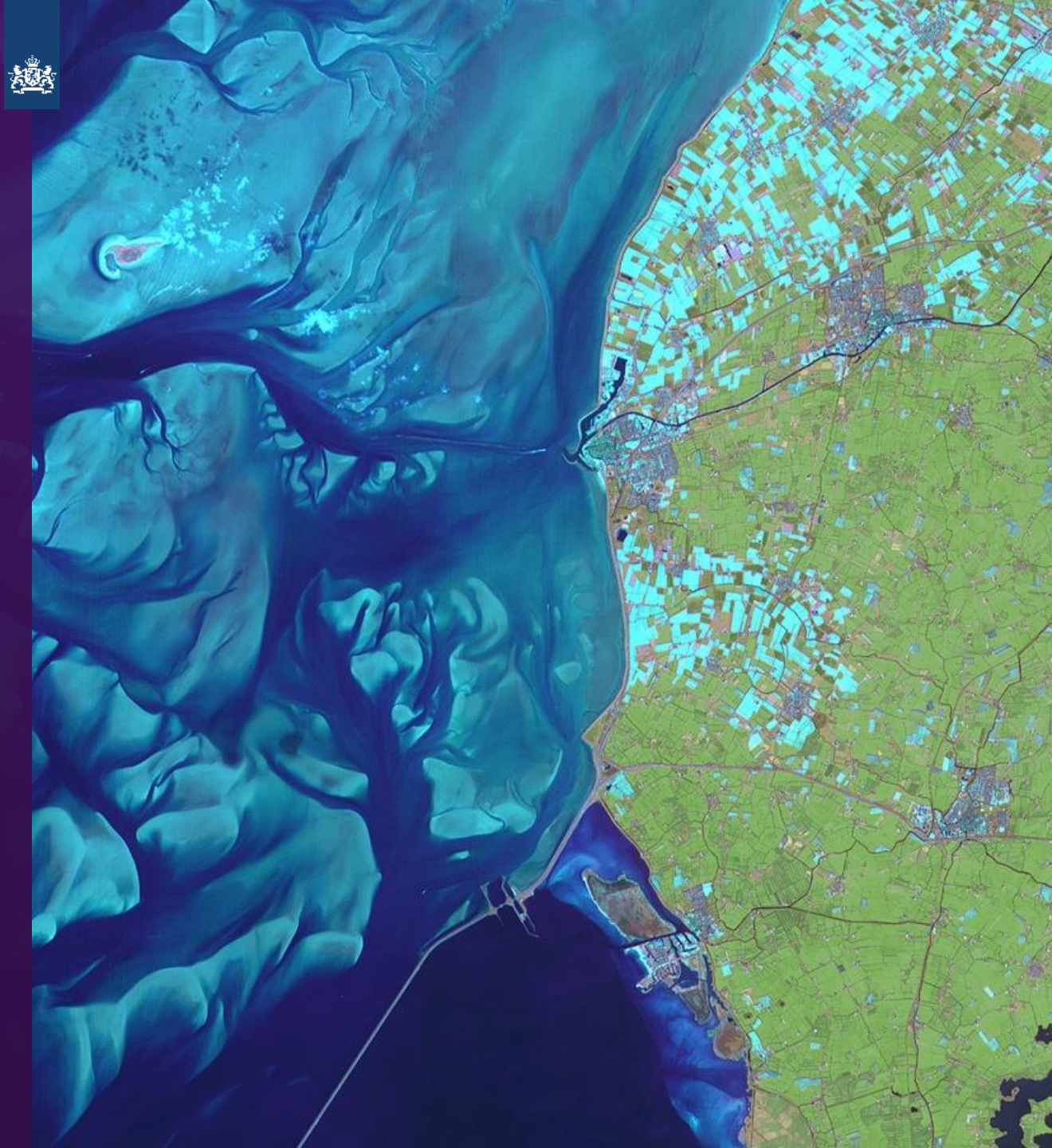


Digital Twins in rural environment

CAPIGI 2025





Netherlands Space Office

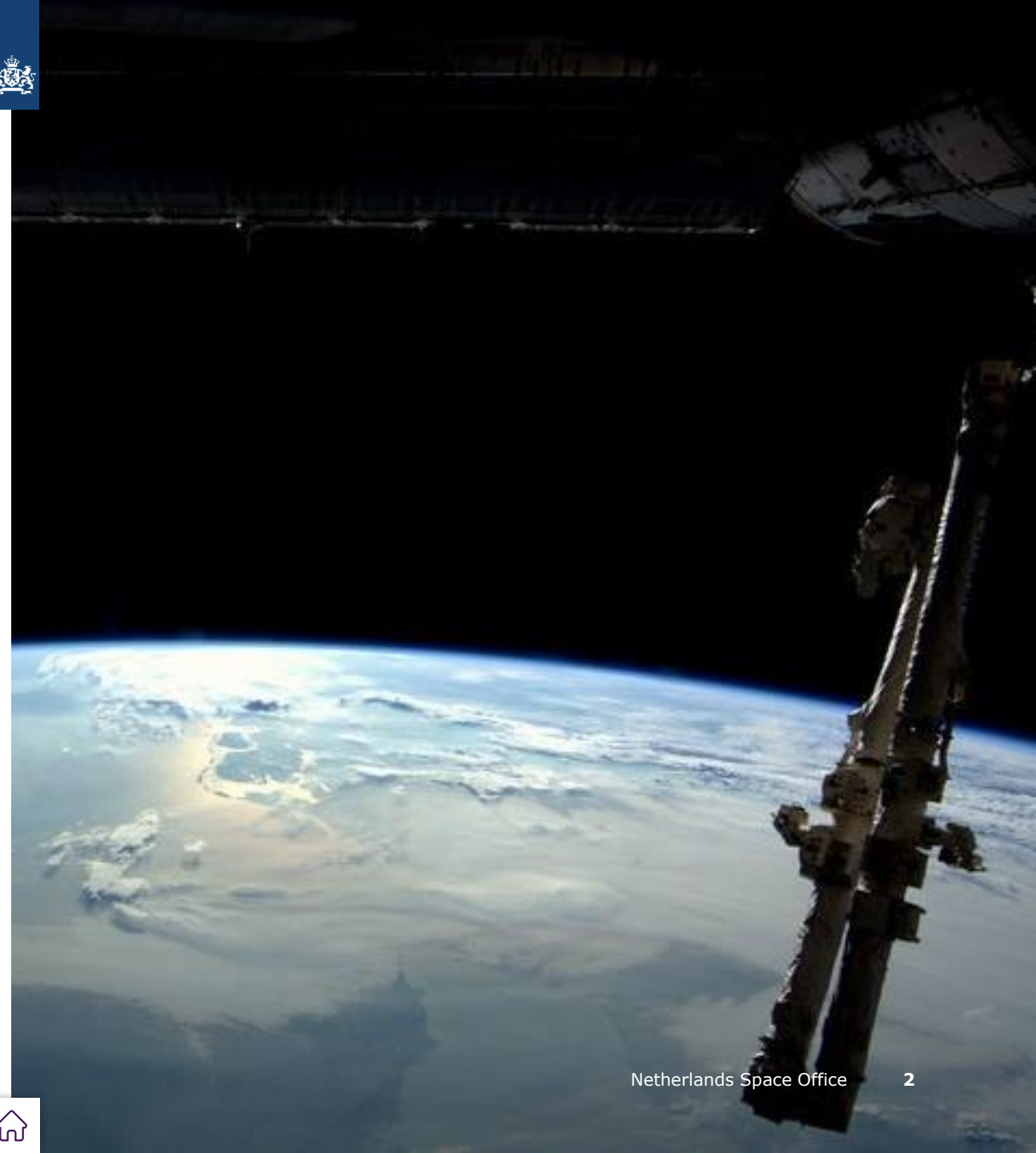
Space Agency of the Netherlands



Advice on and implementation of Dutch
space policy



NSO maximizes the value of space for
society science and economy





Digital Twins

Maulshree Singh et al (2021)

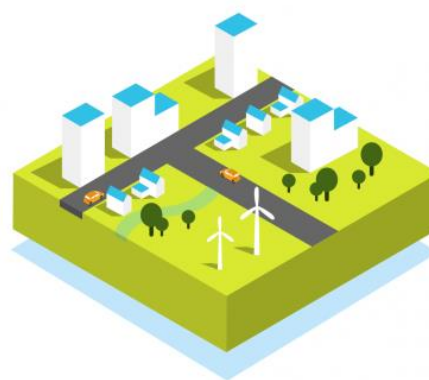
“Digital Twin (DT) refers to the **virtual copy or model of any physical entity (physical twin)** both of which are interconnected via exchange of data in real time. Conceptually, a DT mimics the state of its physical twin in real time and vice versa.”

Physical environment

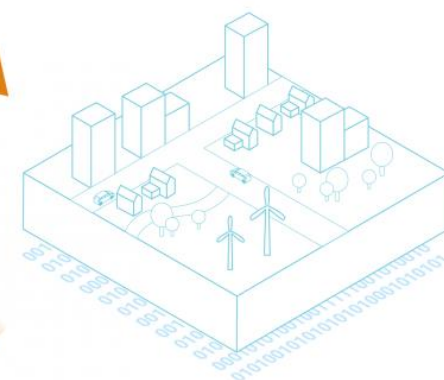
Many societal challenges affect the physical environment / rural environment e.g.:

- Water quality,
- Biodiversity,
- Nitrogen deposition.
- Etc.

Fysieke leefomgeving



Digitale tweeling

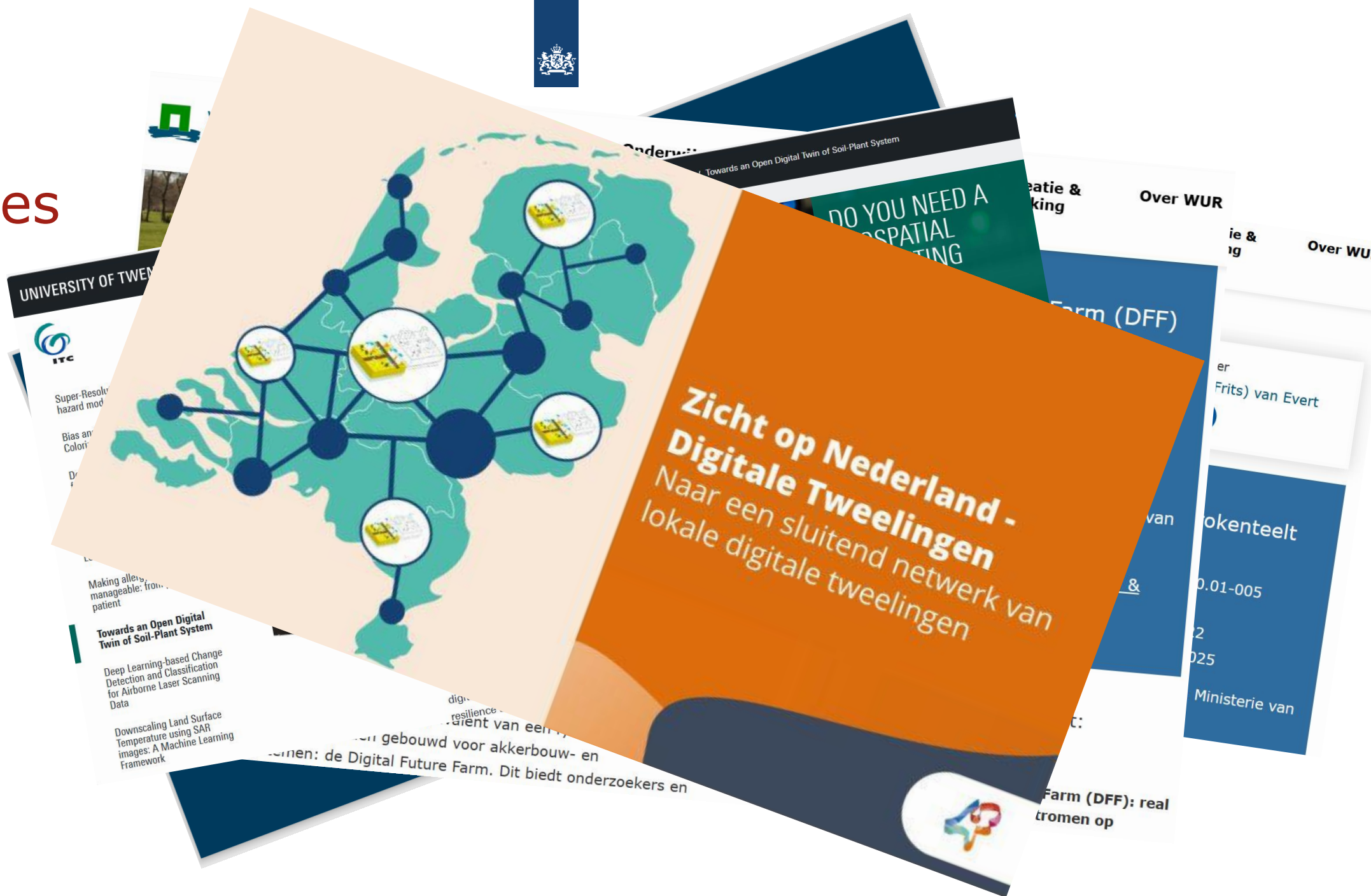




Why are DT's an important subject for NSO?

- NSO's challenge is to enhance the use of space-data. In the Long-Term Space Agenda, the role of DT's is acknowledged.
- NSO internal research shows that:
 - **In innovation, pilots and proofs of concepts are achieved, the next step, to operationalize and scale, is difficult.**
- Last years Innovation Impact Challenge (SBIR) projects on green environment (biodiversity) was an NSO focus point.
- In a DT different point solutions can be integrated and can be beneficial for ministries and other organizations.

Examples





Program of this session:

- Digital twins as a service – Jan Koers Geonovum
 - A conceptual framework of DT's and the interaction with data spaces.
- Destination Earth – Raymond Sluiter Netherlands Space Office
 - The European initiative for a DT of the earth.
- Action Program Digitization – Pim van der Horst Ministry of Agriculture
 - How to use digitization to tackle societal challenges
- Panel discussion

Thank you for your
attention

✉ m.middendorp@spaceoffice.nl

☎ +31 6 1594 0443

