

DigIn2: Digital twin Infrastructure for future (land based) mobility and transportation solutions (veg/bane/knutepunkter)

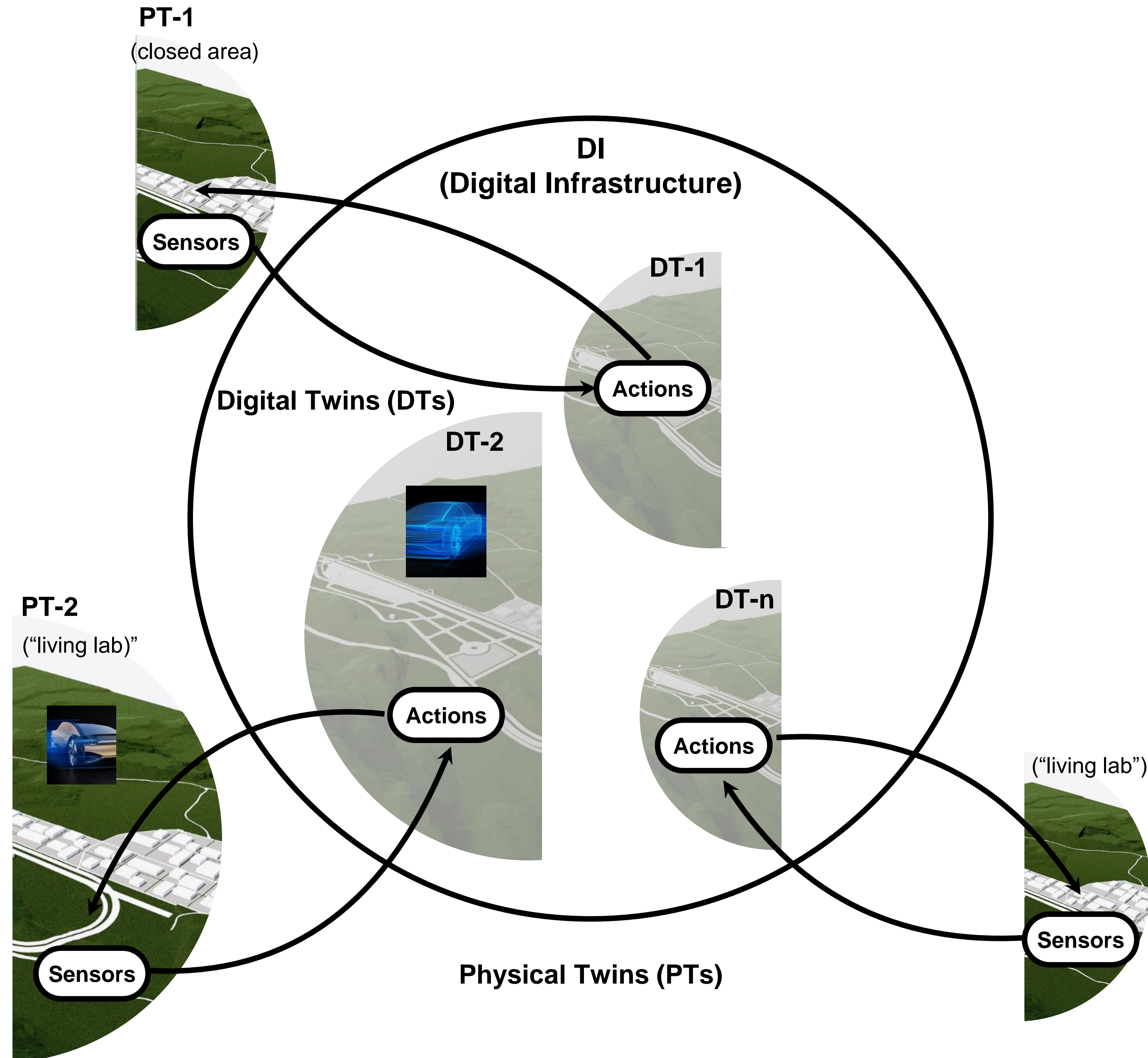
NFR call: Nasjonal forskningsinfrastruktur

Skisse: 21 juni

Søknad: 15 november

Idea

- Det brukes enorme summer på samferdsel og mobilitet hvert år, forsvinnende lite på forskning. Den digitale veien vil være minst like viktig som den fysiske fremover. Bygge riktig første gangen. Utnytte eksisterende fysiske infrastruktur bedre (vedlikehold vs. bygge nytt), etc.
- *Type infrastruktur.* Digital infrastruktur (sensorer, kommunikasjons- og posisjonerings utstyr, datalagring, visualiserings og beregnings utstyr) knyttet til mobilitet. Dette vil være en ny infrastruktur (finnes ikke noe slikt før). Til dels den digitale (f.eks. sensorer), samt den fysiske infrastrukturen som den digitale biten forsøker å speile, vil være distribuert. Vil bli knyttet til eksisterende infrastruktur der hvor mulig og relevant.
- *Brukermiljøer:* Partnere med flere som jobber med forskning og utvikling knyttet til mobilitet.



Partners

Partner	Navn	Telefon	E-post
NTNU (flere fakulteter og institutter)	TBD		
SINTEF (konsernsatsing mobilitet++)	TBD		
Statens vegvesen (Nye Veier)	TBD		
Sentrale fylker og kommuner (veieiere)	TBD		
(Bane NOR / Jernbanedirektoratet)	TBD		
Kartverket	TBD		
ITS Norway / SAMS Norway	TBD		
Industri (Telenor, Telia, Q-free)	TBD		
++ (TBD)			

Based on previous partners

Cases

Tittel: ??

Beskrivelse: ??

Utstyr: ??

Folk / Finansiering: hvis pågående aktivitet: list ant PhDs / PostDocs etc, hvis ny aktivitet list mulige finansiering

	Partner 1	Partner 2	Partner 3	Partner 4	Partner 5	Partner 6	Partner 7	Partner 8	Partner 9
Case 1	x								
Case 2		x	Bare x						
Case 3		x	Eller rolle						
Case 4									
Case 5			Lead	Koordinator					
Case 6				Partner					
Case 7									

Case 4: Digital twin of autonomous urban mobility – bus and sweeper at Kongsberg (Project owner: Arena SAMS - Sustainable Autonomous Mobility Systems)

Case 5: Autonomous Harbor (Project owner: OAC - Ocean Autonomy Cluster with partners) – The DigIT infrastructure can be used to develop digital twins of the harbor area planned to be built at Fosen. The DT will be a digital representation of the physical infrastructure. They will also develop an operation center at the harbor for monitoring and control over autonomous maritime port operations. A digital twin will be an important tool for visualization of data from the operation, the ship, the quay infrastructure and environmental information such as weather, wind, current etc.

Case 6: Digital twin of Fjordlab (Project owner: NTNU and SINTEF Ocean) – Fjordlab is the full-scale research infrastructure in Ocean Space Centre. It consists of a large package of instruments supporting autonomous underwater operations, research on autonomous maritime transport, future aquaculture and monitoring of the underwater and sea surface environment. A digital twin enabled by DigIT will be an important tool for 1) making the data available and 2) creating new research projects based on the available data.

Case 7: Mobile Control Unit for Autoferry (Project owner: NTNU Digital Transformation) – The DigIT infrastructure can be used to develop digital twins that support the development of control functions and operation centers for autonomous maritime urban transport.

Case 8: Drone transportation of biological samples from remote hospitals (Project owner: Aviant, in collaboration with Green Flyway) – The DigIT infrastructure can be used to develop a digital twin of the environment in which a drone carrying biological samples between hospitals shall operate. In order to ensure safe drone operation it is crucial to have a high-end digital map of the environment in which the drone will operate, including additional information like weather and traffic conditions.

Case 9: Simulation of new Campus at Gløshaugen (Project owner: NTNU, Statsbygg) – The DigIT infrastructure can be used to build a detailed digital twin of the new campus area in Trondheim, based on sensor data from a mapping-drone, and a will be useful when the physical construction begins in order to assist in planning, operation and maintenance.

Previous cases