

NVF & Leap to Zero Conference: Accelerating the
Transition to Zero Emission Construction Sites

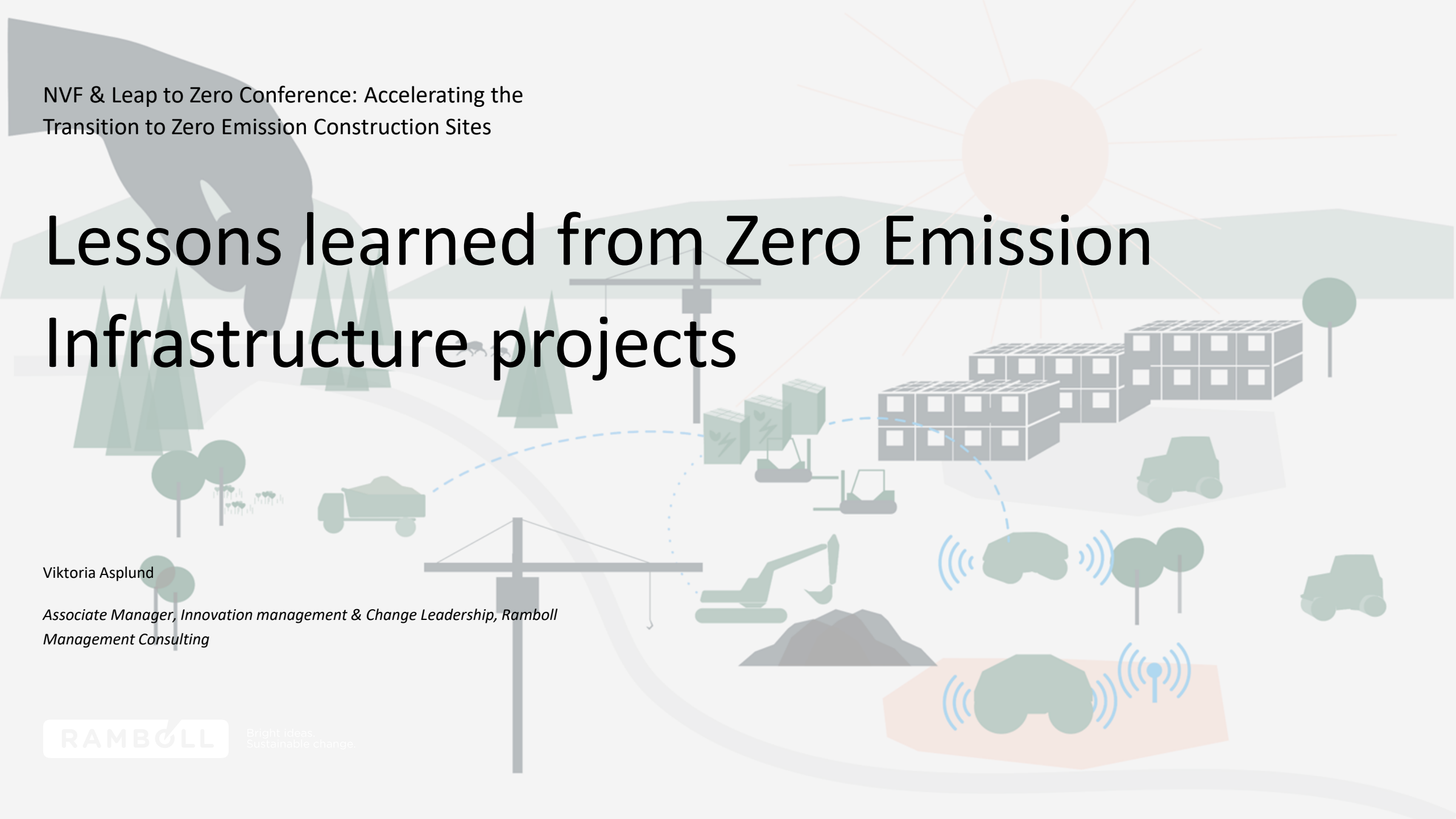
Lessons learned from Zero Emission Infrastructure projects

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RAMBOLL

Bright ideas.
Sustainable change.



Speaking today



Viktoria Asplund

*Associate Manager, Innovation
management & Change Leadership,
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Quick pre-cap of today's talk

- A focus beyond feasibility and technical advancement
- Facilitating sustainable transitions: from design to procurement and production
 - Demands in the design phase
 - Removing barriers for electrification throughout the system
 - Taking greater leaps and scaling electrification

The Partner for Sustainable Change

We are fully committed to working in close partnership with our clients to solve society's biggest challenges. Our strategic ambition is to become a global leader within four sustainability areas where society's needs, client demands, and Ramboll's expertise all converge.

Decarbonise for net zero



Resilient societies and liveability



Resource management and circular economy

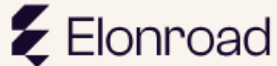


Biodiversity and ecosystem



Emission free trends from the Ramboll consultancy view

Collaboration & Commitment supply chains



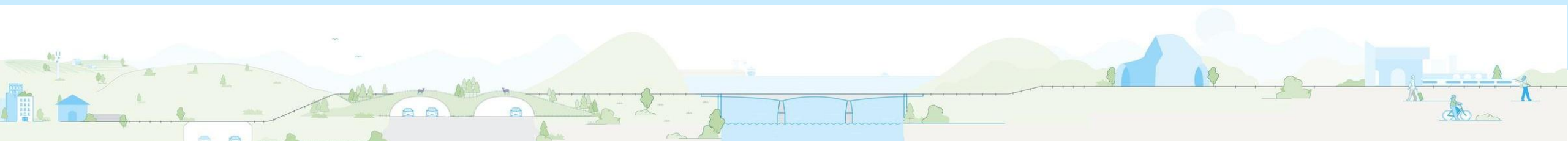
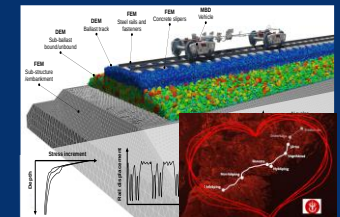
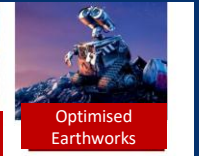
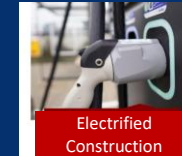
Betcrete 3.0 – for a climate-neutral cement and concrete industry



Systems perspective & sustainable accessibility



Project innovation & challenging the “norm”



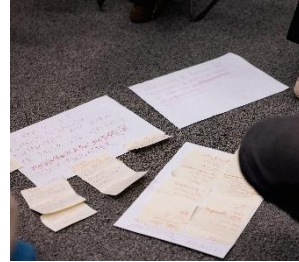
Experiences of change in infrastructure projects affected by ZE



Strategy

Sustainable design – zero emission as an integrated part of environmental work

Pushing clients to new solutions and wider inclusion of sustainability and circularity



Planning

Energy, spatial and production planning

Grid connection and energy solutions

Machinery overview



Procurement

Two phase contracts and pre-contract negotiations

Joint development of contract



Production

Outcome rather than output

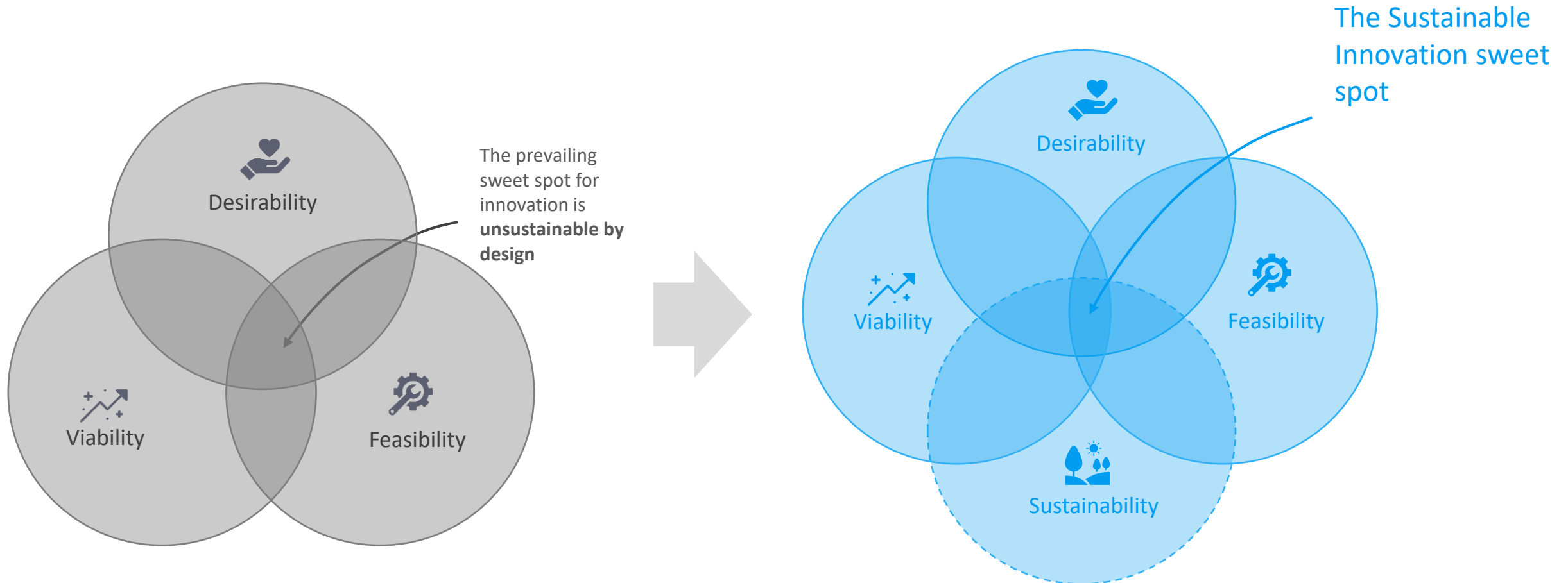
Test to fail fast on common solutions

Data sharing and continuous learning

Partnering

The innovation of electrification

Effectively integrating sustainability from start to finish in our infrastructure innovation journeys.



Prerequisites of change for electrification

- The transformation to electrification is about changing what keeps the problem in its place
- Demands change on many levels
 - not only the ones we see
- *“today’s problems come from yesterday’s solutions”*

Structural
Change
(explicit)

Policy &
Regulations

Practice

Resources

Relational
Change
(semi-explicit)

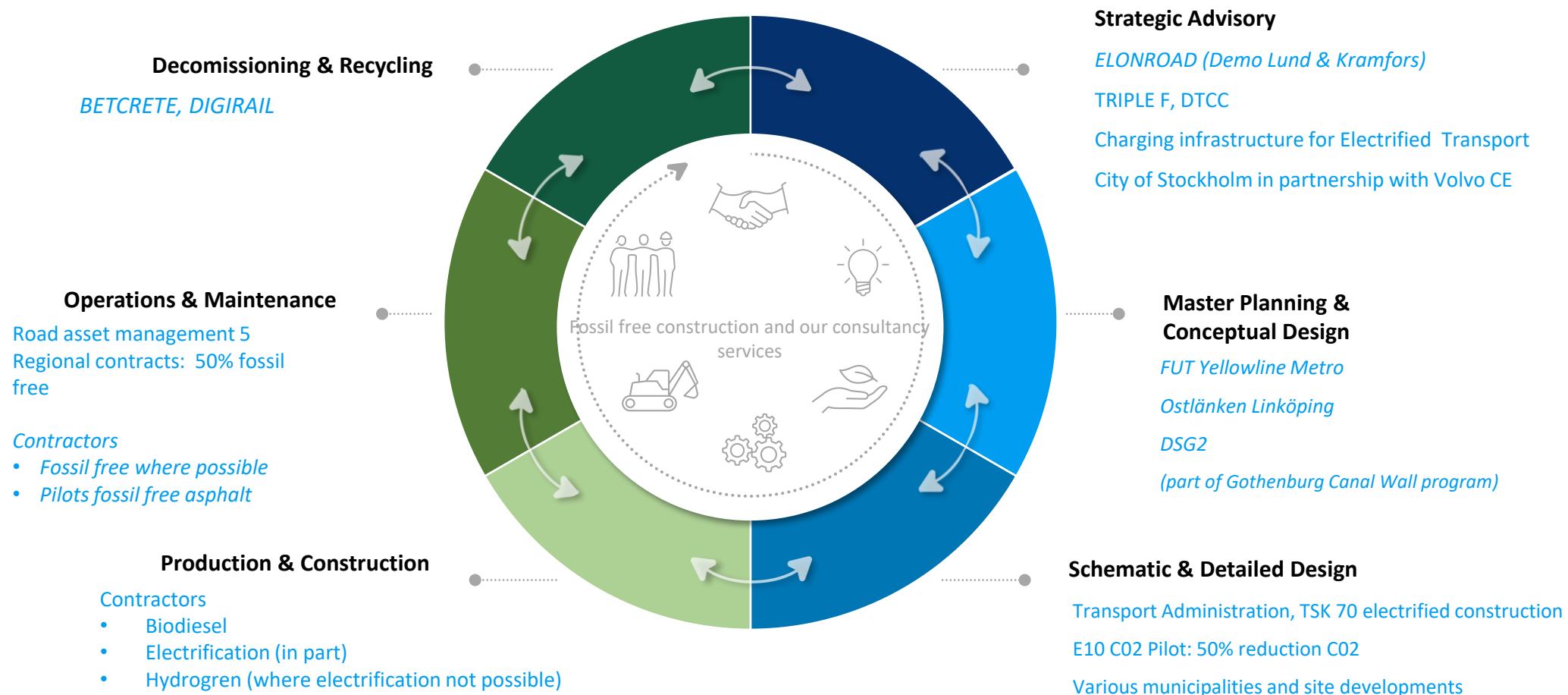
Cooperation
& Relationships

Impact
& Influence

Transformative
Change
(implicit)

Behaviour &
Values

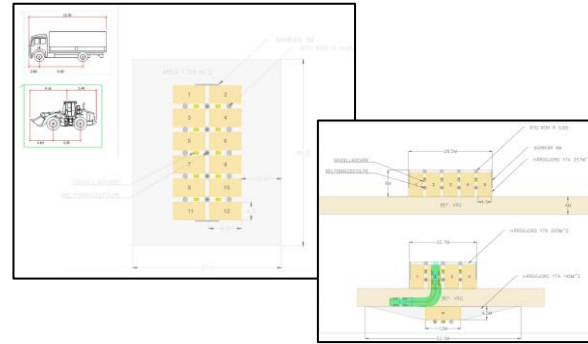
Towards Electrification in our project and service cycle



Planning

Design phase

- Land requirements and zone planning
- Working hours and activities
- Possible effect on project timeline
- Grid capacity and power demand
- Co2 modelling for tracing outcome



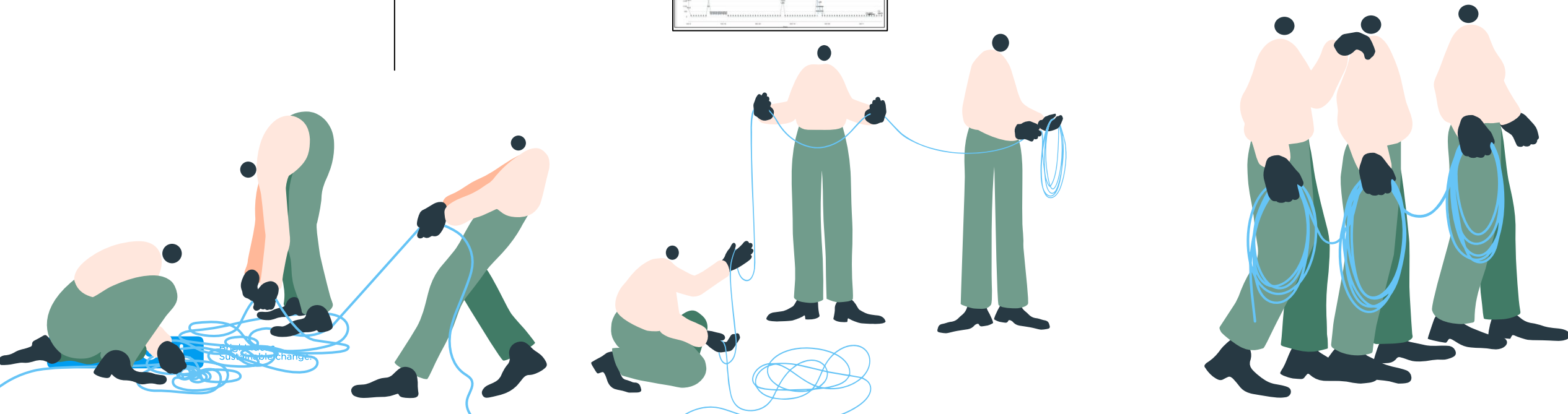
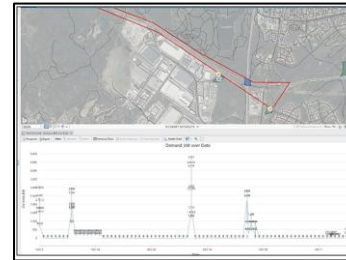
Key lessons

- Increased number of actors involved before project start
- Other competencies and new processes needed in the design phase

Project start

Important deliveries

- Production plan for electrification
- Charging schedule and solutions



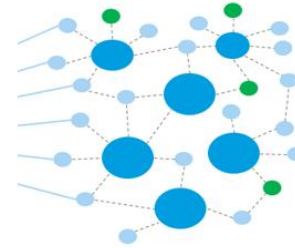
Towards implementation of zero emission construction sites

A transformation journey



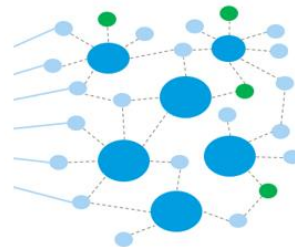
LOOP 3 DSG2 Gothenburg Canal Wall Program

"There are no barriers for zero emission"



LOOP 2

E10 Pilot CO2 & Yellowline Metro



LOOP 1

TSK70 Innovation project: System approach to design & development of infrastructure

Achieving the bigger leaps

From procurement processes based
what is delivered to rather focus on the
effect and value of what is delivered.

Procurement in phases:

- » Set out functional requirements and ambition
- » How would you go about solving this challenge?
 - » Competencies, references and ideas
- » Dialogue around:
 - » Execution and realization
 - » Organisation
 - » Co2-technique
 - » Pricing
- » Select contractors to calculate
- » Possible further dialogue
- » Evaluate on capacity and Co2-calculations

Start the procurement earlier and involve procurement specialists

Keep your goals clear but no need to set the path: be ready to listen

Dare to act on what the dialogue shows you



Electrification and production

Shared risk and increased collaboration during production:

- » Gradually increasing electrification over project period
- » Let testing be the best advocate for electrification
- » Share the risks that comes with learning
 - » Incentives and bonuses
 - » Joint redundancy plans

Scaled production needs increase in:

- » Data driven monitoring of Co2, energy consumption (kWh), smart charging for peak shaving, machine hours etc.
- » Verified deviation flow and monthly review

Keys to success:

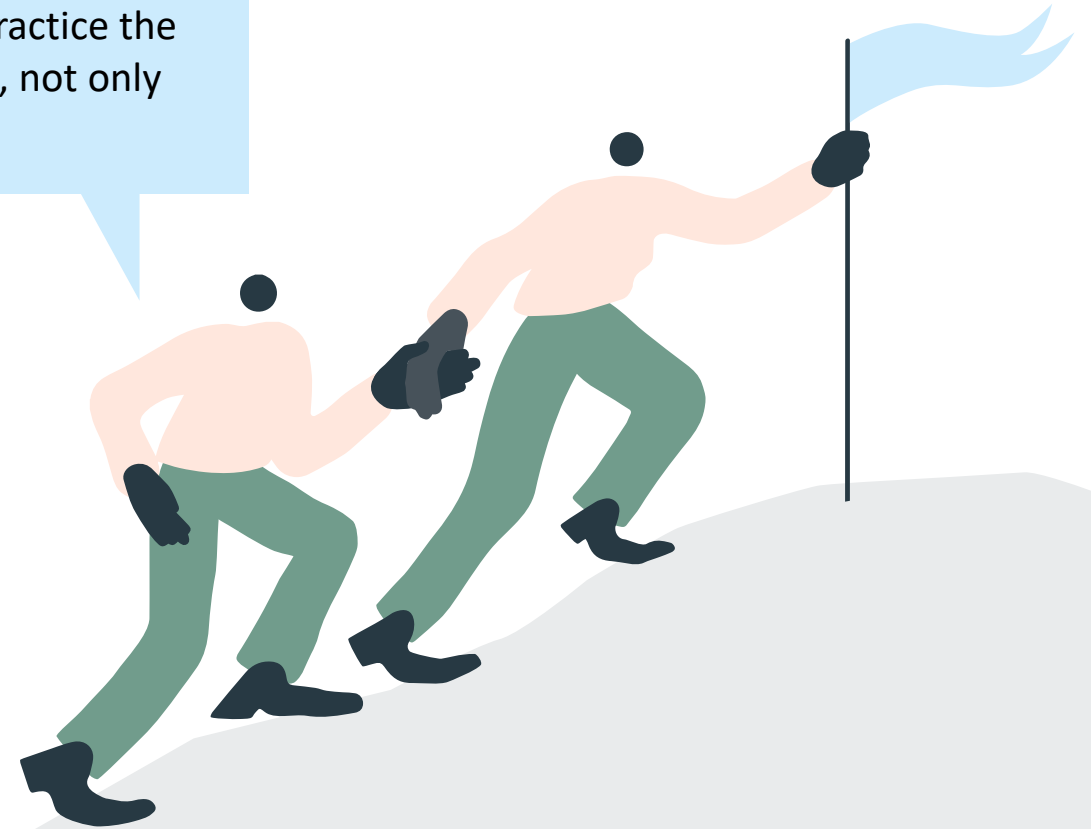
- » Value cooperation and collaboration *above* traditional hierarchies and processes
- » Value learning and outcome *above* standardised reporting and extensive administration
- » Value joint problem solving *above* contract negotiations
- » Value adaptability to change *above* following a rigid plan



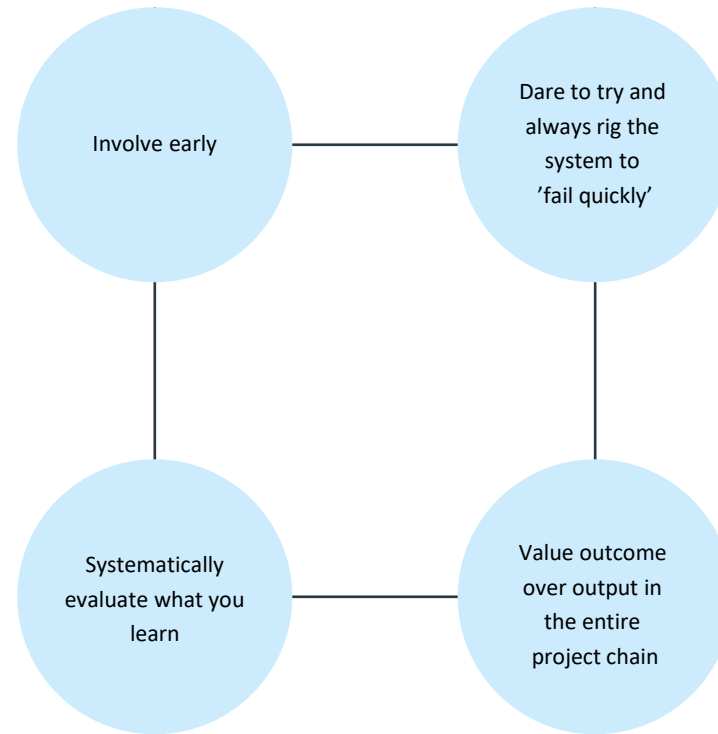


Partnering for electrification

In order to create change
we need to practice the
act of change, not only
talk about it!



Keys to accelerate change



Bright
ideas.
Sustainable
change.



Thank you!

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