



uncovering the value of existing real estate assets



**Daniel Tabacaru** - AIC, Founder

[www.againx.ai](http://www.againx.ai)



BERGEN  
KOMMUNE



Asker  
kommune



BÆRUM  
KOMMUNE

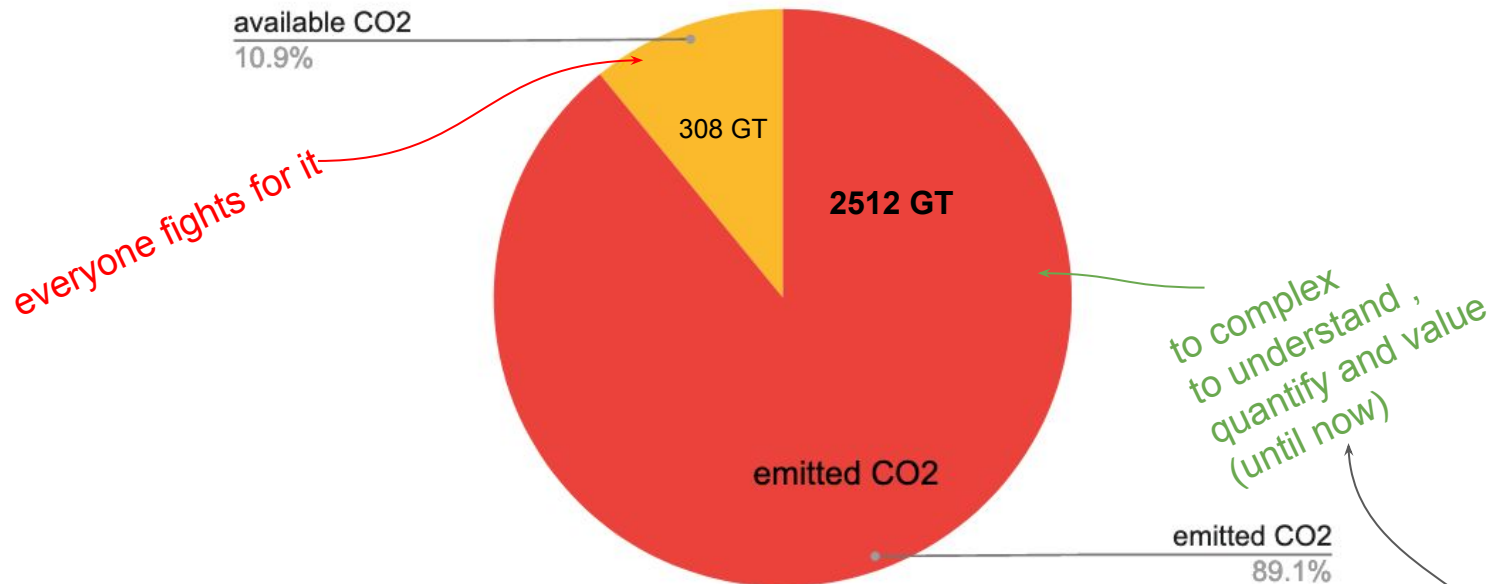
ansatt eller konsulent for de over nevnte langs tiden

# Det “usynlige problem”



# Det CO2 budsjett

## emitted CO2 vs. available CO2



source: IPCC rapport 2017, updated 2022.march

# Den “håndterbart problem”



# Den "håndterbart problem"

BIM manager, 2017-2019

Kommunegården, Bærum  
30000 kvm



1992



2020



2023

risk  
kostnad  
tid

# The problem

Kommunegården, Bærum  
30000 kvm



2020

## Avfall fra byggeaktivitet

Oppdatert: 9. desember 2021

Neste oppdatering: Foreløpig ikke fastsatt

Avfall fra byggeaktivitet

2020

**2 135 747** tonn

Genererte mengder avfall fra nybygging, rehabilitering og riving. Tonn. Hovedgrupper.			
	Tonn	Andel	Endring i prosent
			2019 - 2020
2020			
<b>Byggeaktivitet i alt</b>	<b>2 135 747</b>	<b>100,0</b>	<b>9,6</b>
Nybygging	646 742	30,3	-1,7
Rehabilitering	510 806	23,9	3,3
Riving	978 200	45,8	22,9

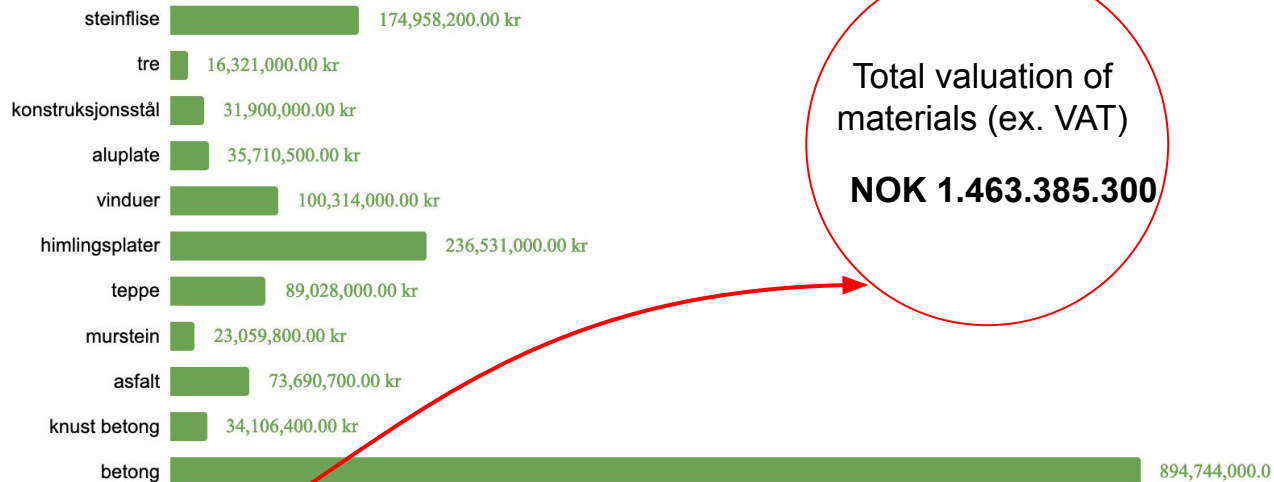
Rettet 31. mars 2021.

# Material content valuation



estimated demolition  
costs

NOK 200.000.000



Data provided by Mustad Eiendom, Lendager Group



The following slides show, in a simplified form, the relation between **data** and **risk** assessment, and why Again X mission to uncover the data has important impacts both in investment and long term maintenance phase, by providing early data KPIs

10% data

**90% risk**

20% data

**80% risk**

40% data

60% risk



50% data

50% risk



60% data

40% risk



80% data

20% risk



20% data

**80% risk**



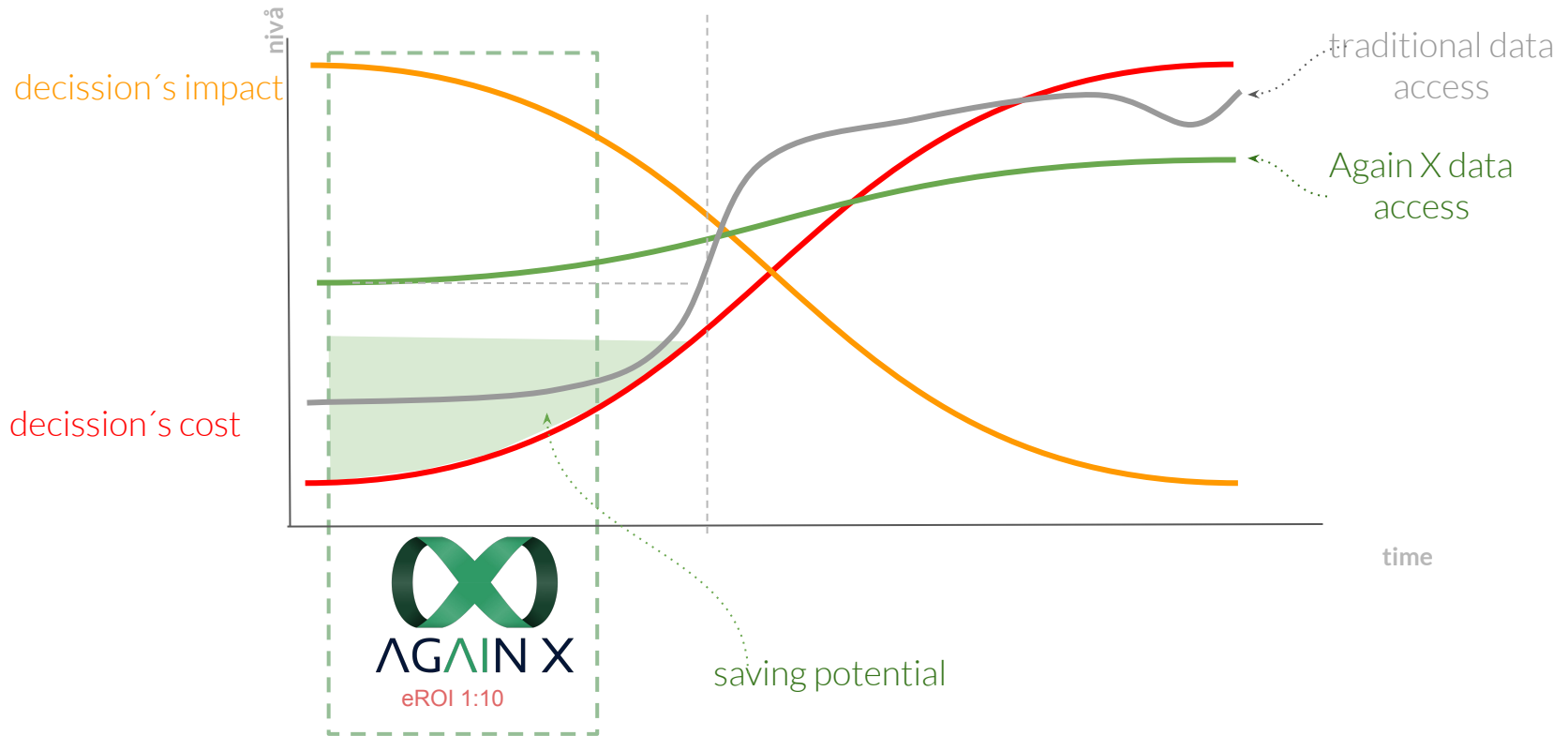
60% data

**40% risk**

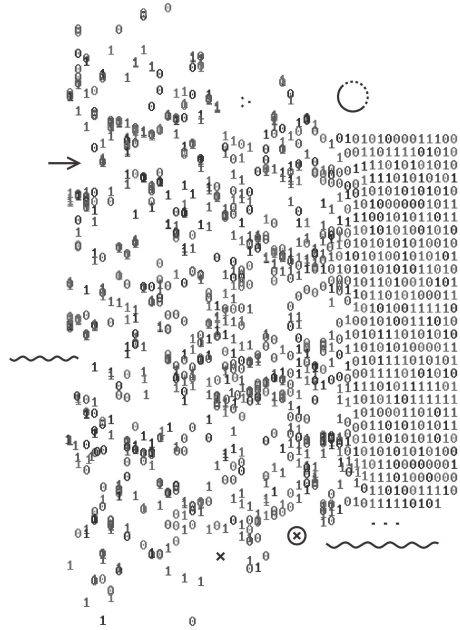




# Early stage decisions data support



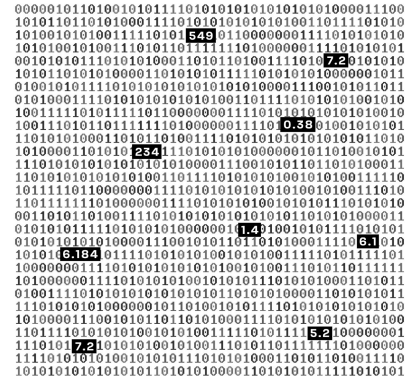
# The Solution



Existing  
data  
sources



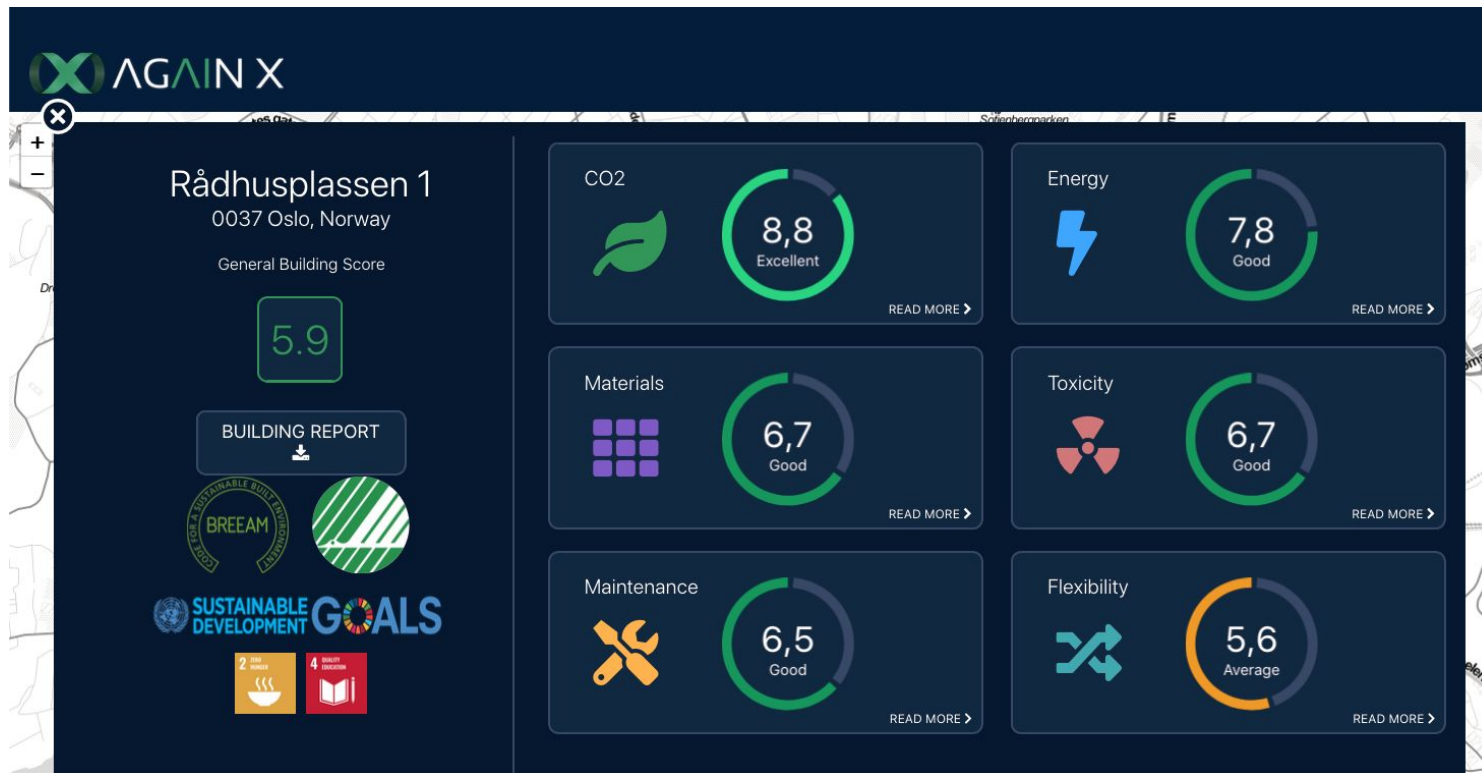
structure  
&  
classify



aggregate

AI with human  
understanding and experience

# Dashboard and results



# The Team



**Daniel Tabacaru**

CEO / founder  
Architect BIM / Engineer (ue)  
circular economy expert



**Eirik Rudi Wærner**

Expert materials / toxicology  
shareholder  
Multiconsult, leder NHP4, RIF



**Edvard Clausen**

Sales VP  
shareholder  
Atea, Tryg, Danica, Xerox



**Gry Miriam Olser**

Director of the Board  
Bybanen, Keolis., Reson



**Margrethe Snekkerbakken**

Board member  
Forrige bærekraftig sjef for Avinor  
Bergfald miljørådgivere

## Behind the scene (wizards)

**Petros Choidis, Cand Phd**

**Akriti Sharma, Phd**

**OceanoBe, Romania**

**Alexander Andries**

**Knut Høie**

**Jørgen Hernæs Grødem**

**Ugo Dimini**

**Omer Greenberg**

Materials modelling wizard

AI, visual analysis, CNN

Architect/DB/BE

DevOps

Backend developer

visual development

DB / French market

CRM / SoMe /BI

## projects



## Research partners



## Funding partners

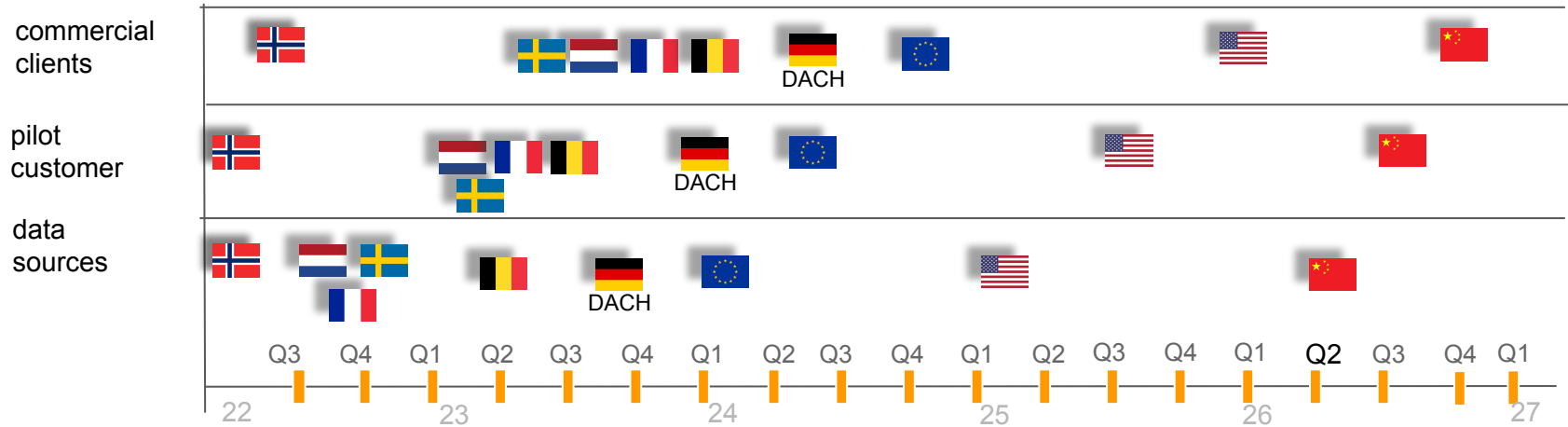
890 000 USD



## Funding partners



# markedsutvikling data - pilotkunde - kommersiell produkt



# Pilot projects



## 2 samarbeidsprosjekter:

### 1. forskningsprosjekt hvor vi trenger en partner med variert bygningsmasse

- 50% av kostnadene dekket
- mulig oppstart fra Mandag 24 oktober, ferdigstillelse januar 2023

### 2. mulighetsstudie for ombruk

Enova dekker opp til 50% av prosjektkostnadene



# ENOVA



Daniel Tabacaru

CEO / Founder

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# Market feedback

“we understand our income streams but maintenance costs are a big unknown”

Fredensborg investment team

“Daniel, if you solve the early KPI’s and what type of data we need in the early stage in refurbishing projects, then you have work for the next 30 years

VDC director, Sweco

“we would love to have you do for refurbishments what Spacemaker is doing for greenfield projects. Give us early, corroborated data and we pay for it”

Jakob Krupka, Møller Eiendom



# Developing work AI/ ML



-report financed by Forskningsrådet  
delivered des.15.2020



**Report**

**AgainX KPI**  
Sustainability and investment KPIs in non-residential real estate using ML algorithms and big data

VERSION 1.0

ISSUED BY: Nils-Henrik Labowitz, Daniel Fabozza, Kristine Sævi, Kjetil Grøden, Knut Vidar Skjott

CREATED BY: Agnar Aagaard

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7 of 16

**Abstract**  
**Towards a decision-support tool for real estate investors**  
The world is getting urbanised and we need more resources to build and develop our cities. With the growth, unfortunately comes an increased pressure on the natural resources and eventually their depletion. At the same time in our cities, we will have already an impressive materials bank available, namely in our buildings. By mapping and understanding their amount, quality and accessibility we can better plan for the future and decrease the pressure on virgin raw materials and create a Circular Building Industry. This report investigates and identifies the main scientific challenges related to AgainX's top-down approach to mapping the existing buildings. The main objective for the pre-project is to prepare the ground for applying a larger research project to support the development of AgainX's product: a SaaS platform providing relevant KPIs to real estate investors and property managers.

**of the art and knowledge needs**  
**Machine Learning (ML) algorithms**  
Phase 1 (Data Input), phase 2 (Data Preprocessing), phase 3 (Model Training), phase 4 (Model Evaluation), phase 5 (Model Deployment).  
Phase 1: Data Input. Phase 2: Data Preprocessing. Phase 3: Model Training. Phase 4: Model Evaluation. Phase 5: Model Deployment.

**AI's concrete challenges for transforming data into knowledge?**  
AI's concrete challenges for transforming data into knowledge? AI's concrete challenges for transforming data into knowledge? AI's concrete challenges for transforming data into knowledge?