
Designing better cities
with artificial intelligence?
@bilal_chaudhry

We believe there is a better way to design our cities.

90% of future global population growth will take place in cities.

Problem space

Our solution

Site

Zoning and law

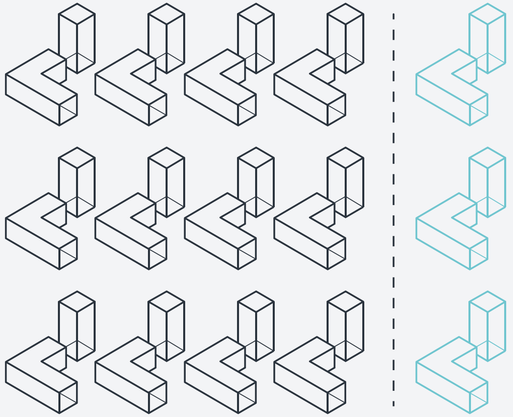
Quality Preferences

Market Preferences

Physical Environment

AI Engine

Solutions

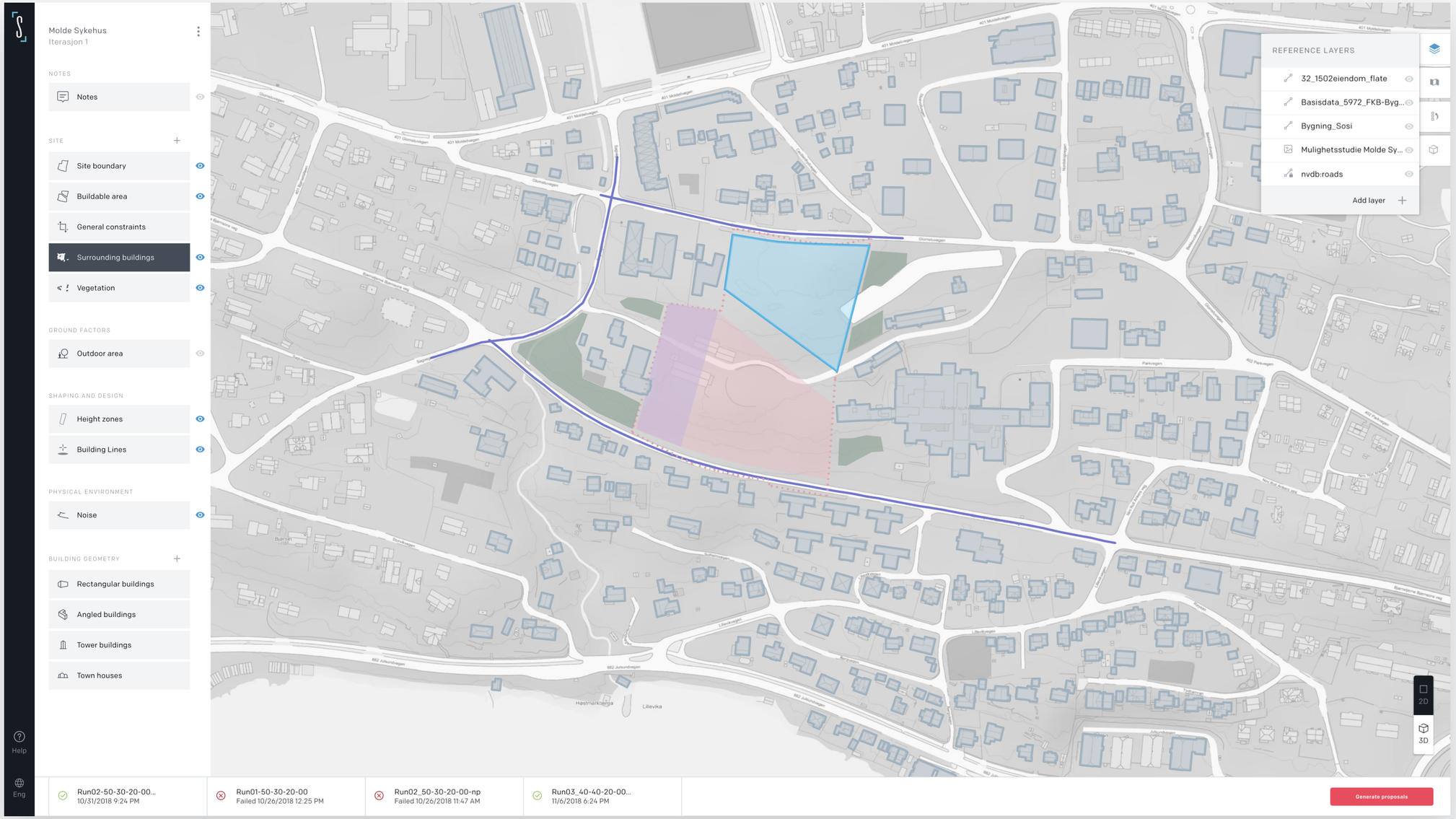


Solutions based on input data and preferences

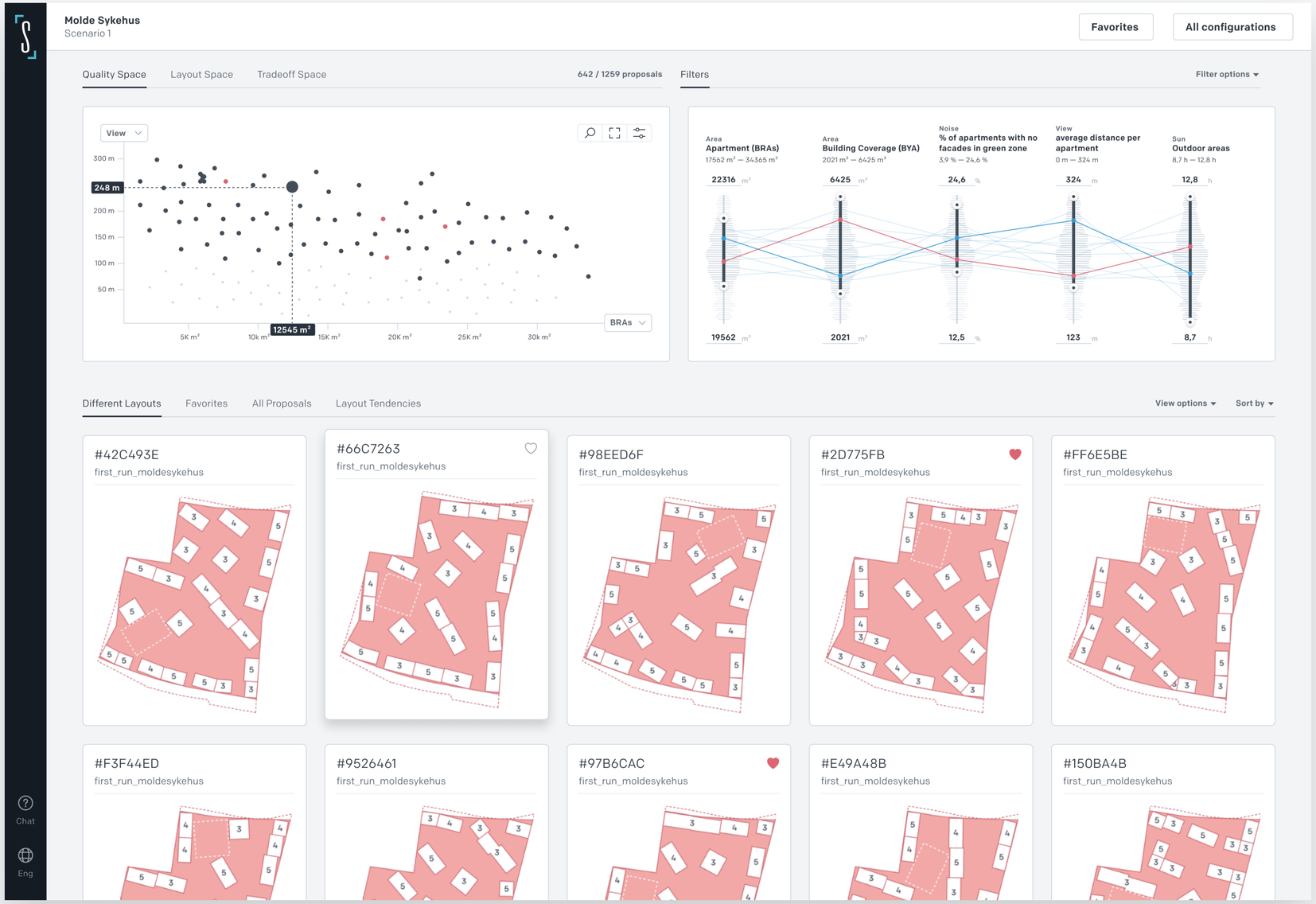
Analyze

Detailed statistics and analysis

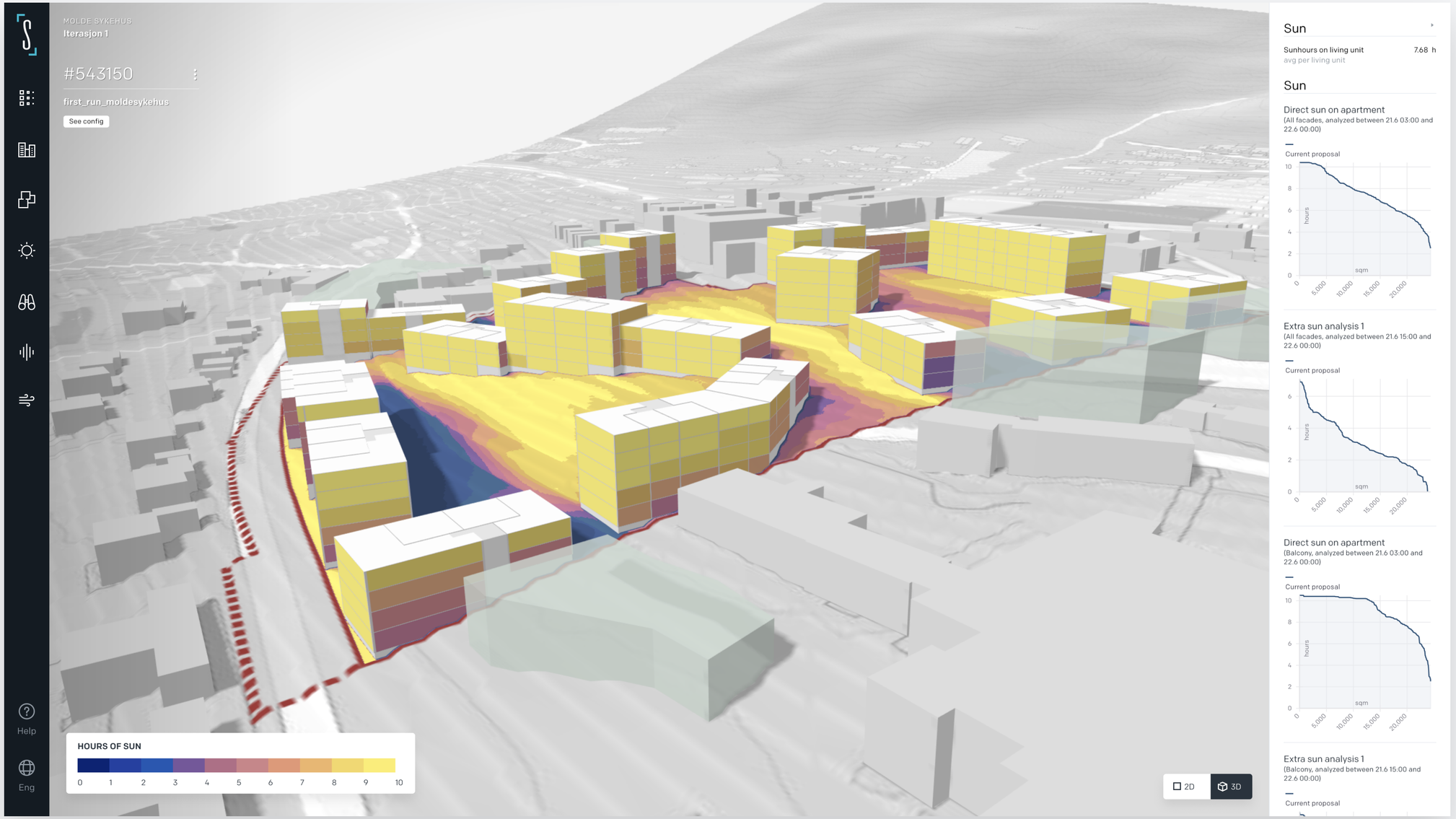
Site


Molde Sykehus
Iterasjon 1
NOTES
Notes
SITE
Site boundary
Buildable area
General constraints
Surrounding buildings
Vegetation
GROUND FACTORS
Outdoor area
SHAPING AND DESIGN
Height zones
Building Lines
PHYSICAL ENVIRONMENT
Noise
BUILDING GEOMETRY
Rectangular buildings
Angled buildings
Tower buildings
Town houses
Help
Eng
REFERENCE LAYERS
32_1502eiendom_flate
Basisdata_5972_FKB-Byg...
Bygning_Sosi
Mulighetsstudie Molde Sy...
nvdb:roads
Add layer
2D
3D
Run02-50-30-20-00...
10/31/2018 9:24 PM
Run01-50-30-20-00
Failed 10/26/2018 12:25 PM
Run02_50-30-20-00-np
Failed 10/26/2018 11:47 AM
Run03_40-40-20-00...
11/6/2018 6:24 PM
Generate proposals

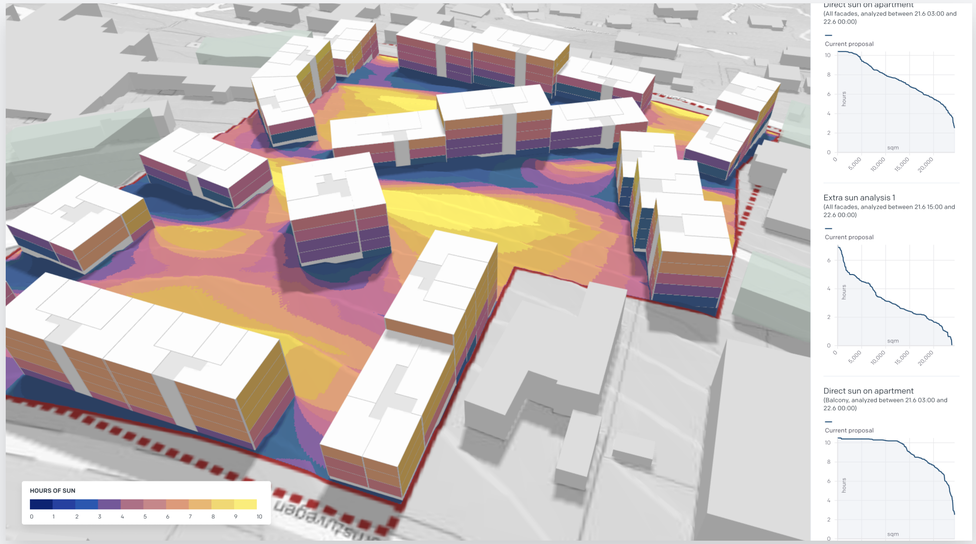
Solutions

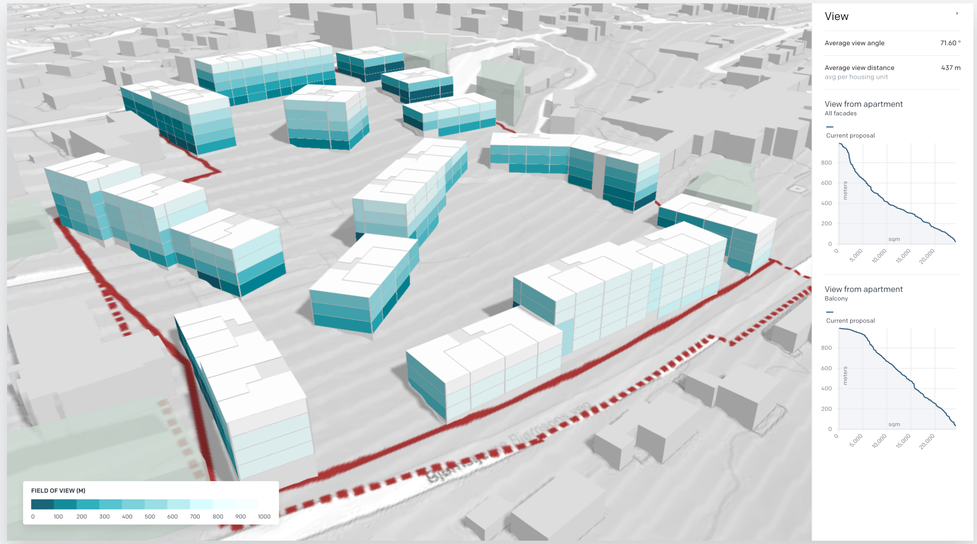

Molde Sykehus
Scenario 1
Favorites
All configurations
Quality Space
Layout Space
Tradeoff Space
642 / 1259 proposals
Filters
Filter options
View
300 m
248 m
200 m
150 m
100 m
50 m
5K m²
10k m²
12545 m²
15K m²
20K m²
25K m²
30k m²
BRAs
Area
Apartment (BRAs)
17562 m² — 34365 m²
Area
Building Coverage (BYA)
2021 m² — 6425 m²
Noise
% of apartments with no facades in green zone
3,9 % — 24,6 %
View
average distance per apartment
0 m — 324 m
Sun
Outdoor areas
8,7 h — 12,8 h
22316 m²
6425 m²
24,6 %
324 m
12,8 h
19562 m²
2021 m²
12,5 %
123 m
8,7 h
Different Layouts
Favorites
All Proposals
Layout Tendencies
View options
Sort by
#42C493E
first_run_moldesykehus
#66C7263
first_run_moldesykehus
#98EED6F
first_run_moldesykehus
#2D775FB
first_run_moldesykehus
#FF6E5BE
first_run_moldesykehus
#F3F44ED
first_run_moldesykehus
#9526461
first_run_moldesykehus
#97B6CAC
first_run_moldesykehus
#E49A48B
first_run_moldesykehus
#150BA4B
first_run_moldesykehus
Chat
Eng

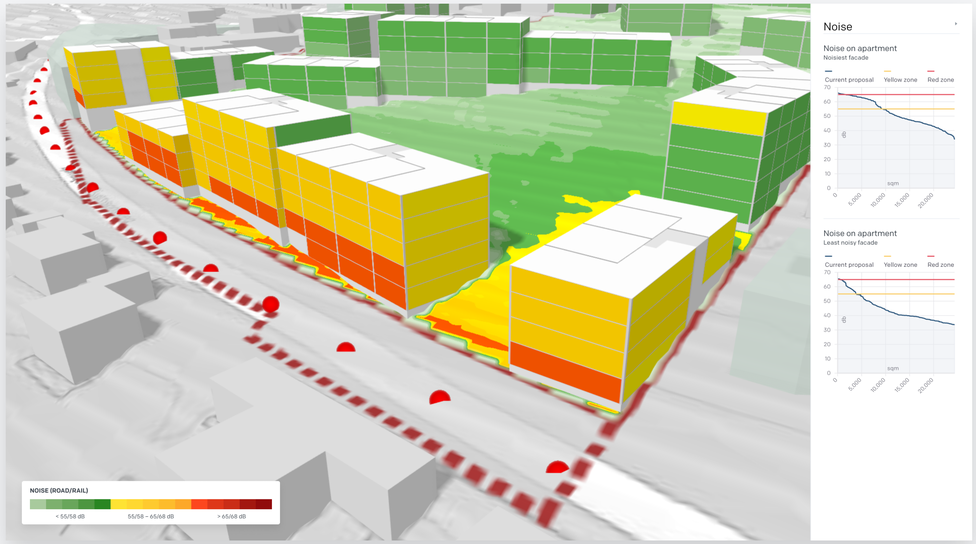
Analyze

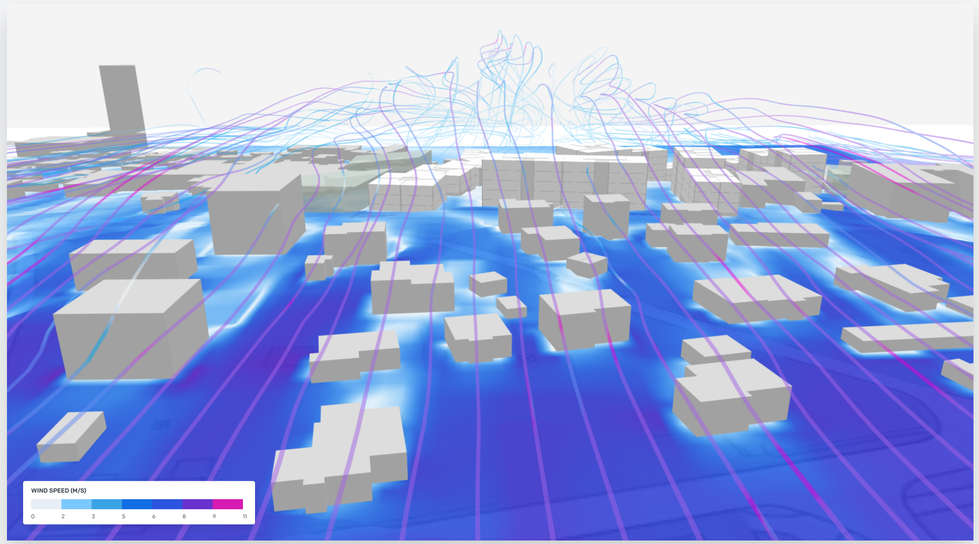

MOLDE SYKEHUS
Iterasjon 1
#543150
first_run_moldesykehus
See config
Help
Eng
HOURS OF SUN
0 1 2 3 4 5 6 7 8 9 10
2D
3D
Sun
Sunhours on living unit
avg per living unit
7.68 h
Sun
Direct sun on apartment
(All facades, analyzed between 21.6 03:00 and 22.6 00:00)
Current proposal
hours
sqm
Extra sun analysis 1
(All facades, analyzed between 21.6 15:00 and 22.6 00:00)
Current proposal
Direct sun on apartment
(Balcony, analyzed between 21.6 03:00 and 22.6 00:00)
Current proposal
Extra sun analysis 1
(Balcony, analyzed between 21.6 15:00 and 22.6 00:00)
Current proposal

Solution analysis

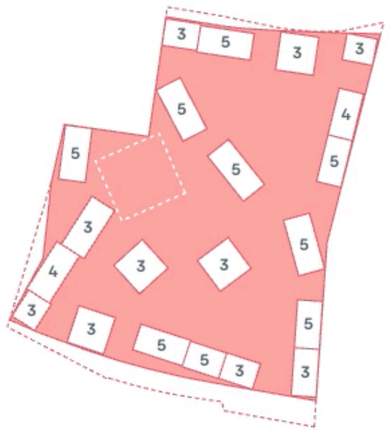




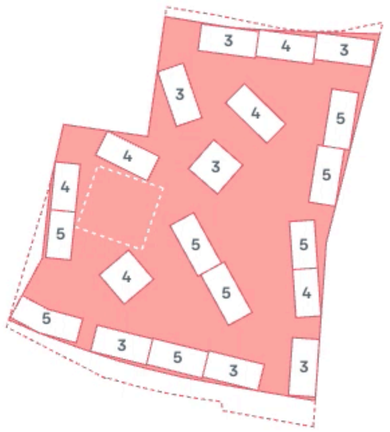




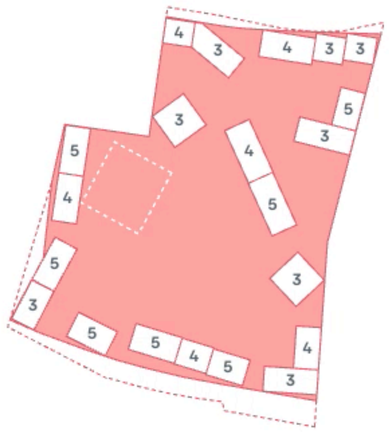
#1F8238C
First_run



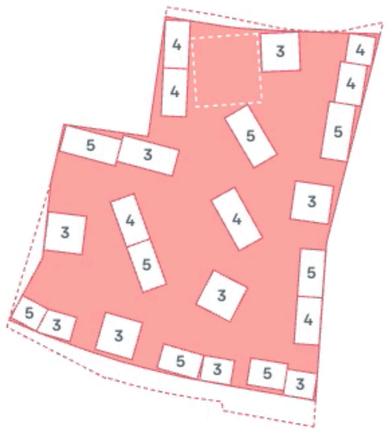
#7C2092C
First_run



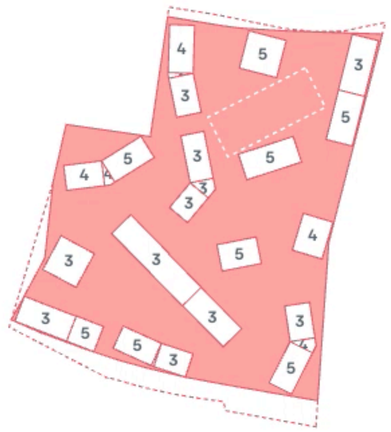
#2DBC1FE
First_run



#387771D
First_run

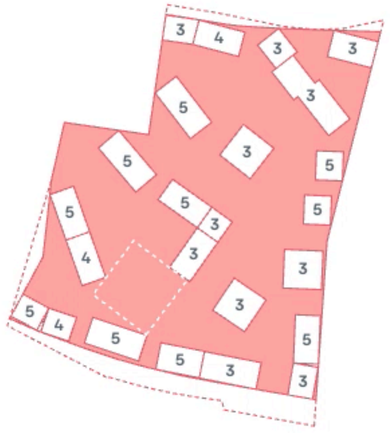


#161AD76
First_run



Problem solved?

#4906CBB
First_run



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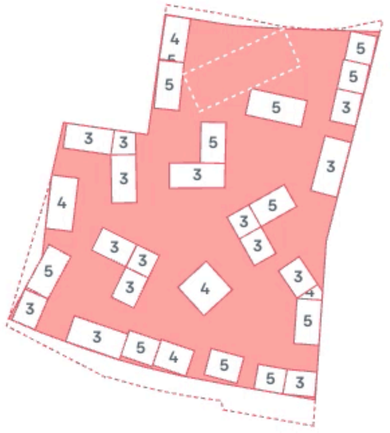
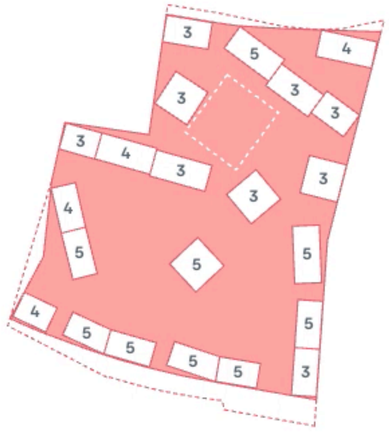
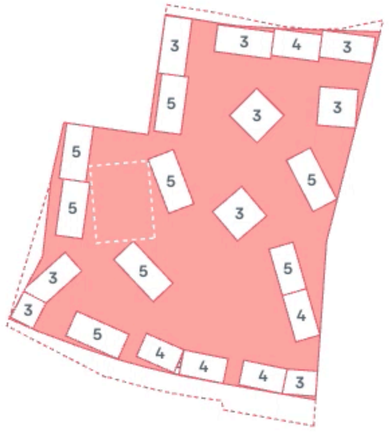
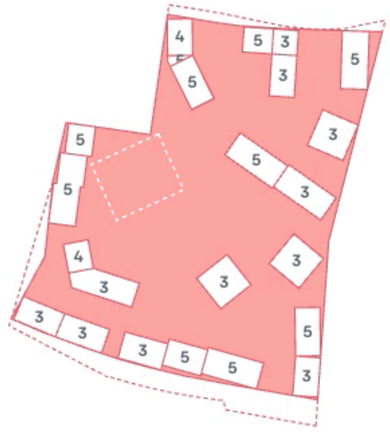
First_run







#6AAFF80
First_run



#1BFCB63
First_run

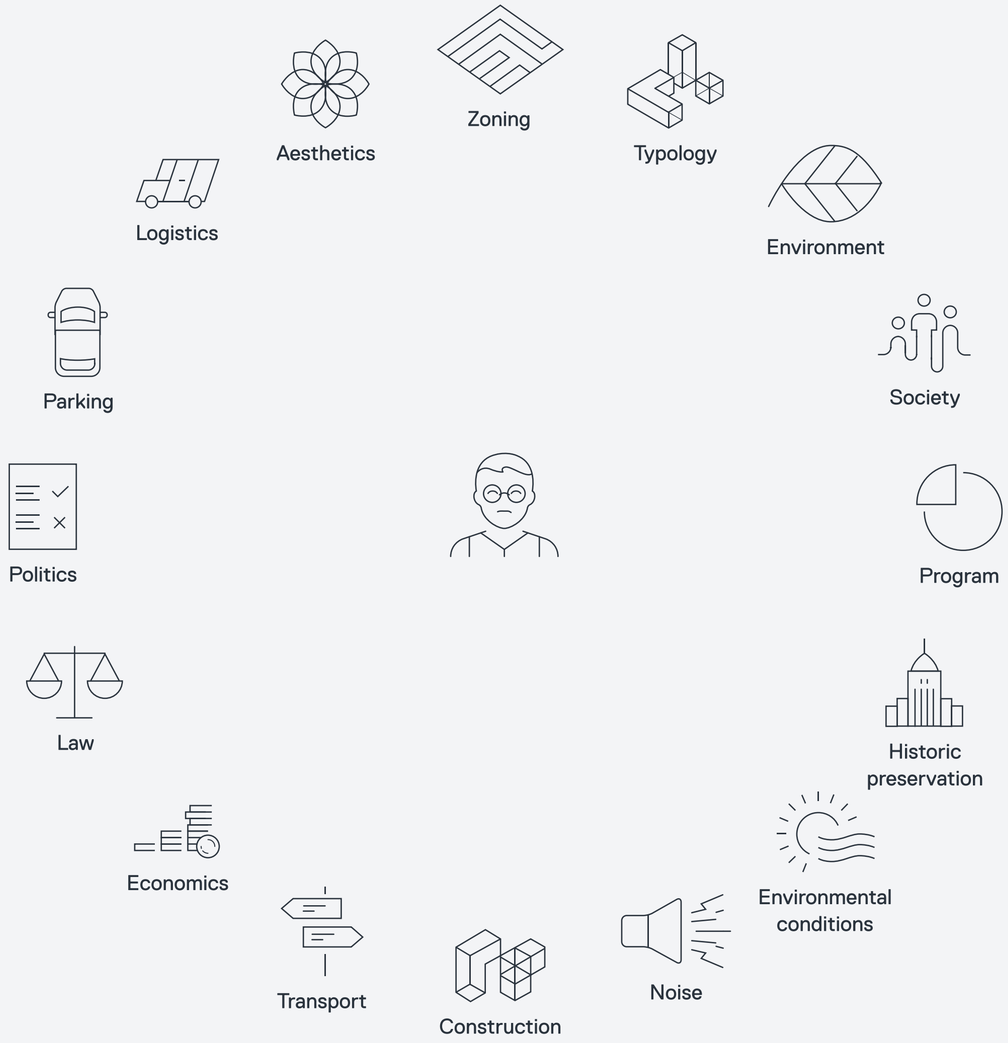
#642D63A
First_run

#B11E094
First_run

#B1404BC
First_run

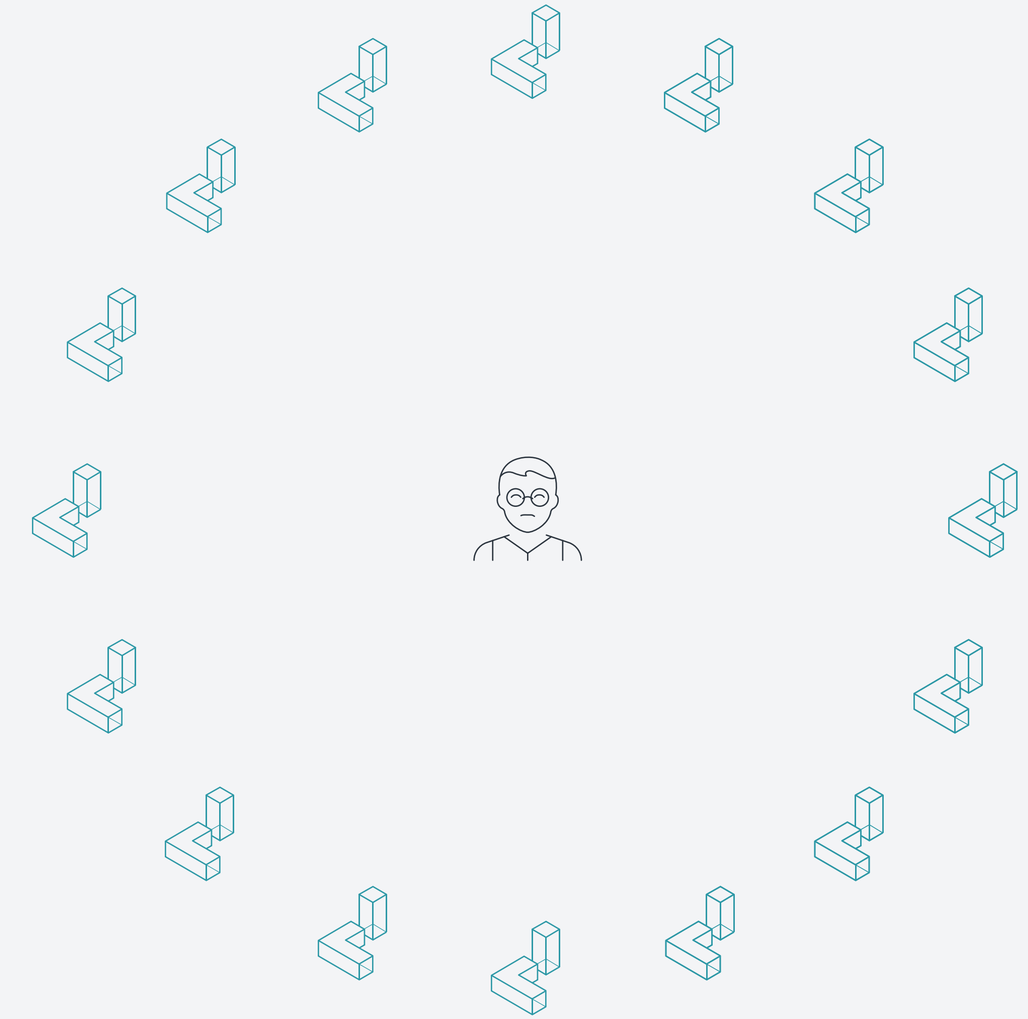
#3105C63
First_run

From complexity...

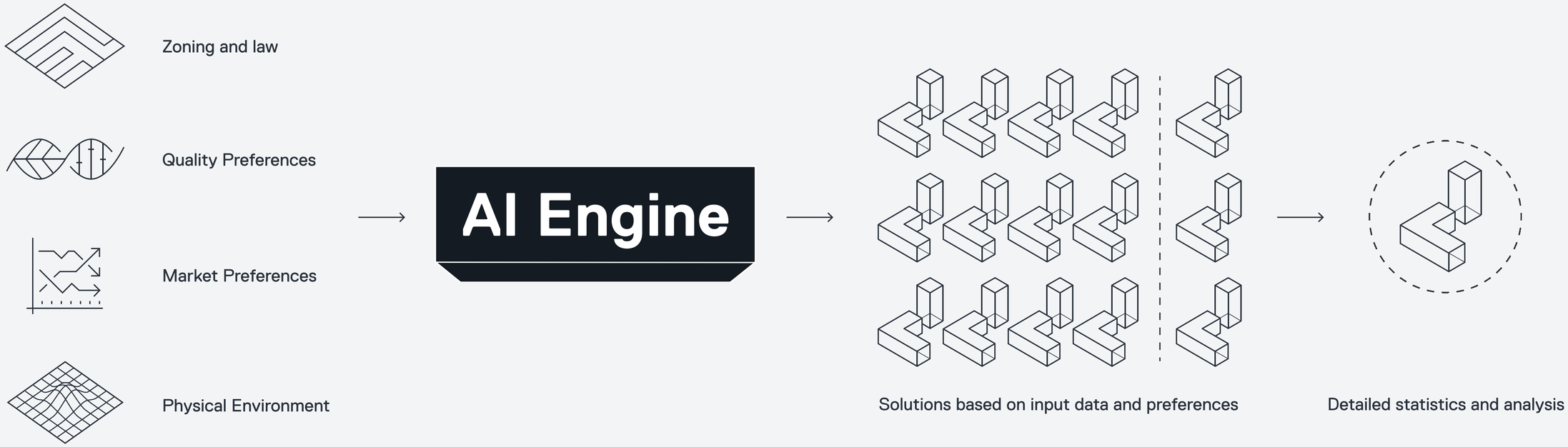


From complexity...

...to another kind of complexity



The magic “black box” AI



The magic “black box” AI

User input

Zoning and law

Quality Preferences

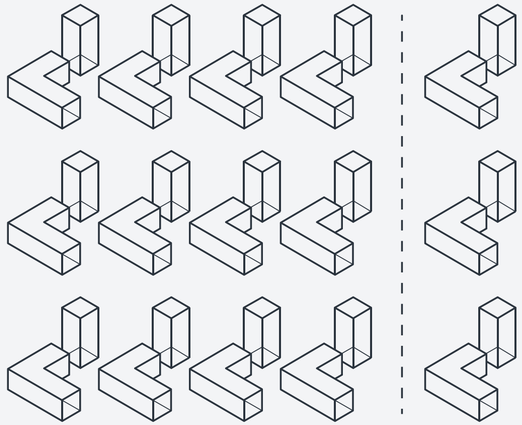
Market Preferences

Physical Environment

Magic happens

AI Engine

Exploration



Solutions based on input data and preferences

Evaluation

Detailed statistics and analysis

Putting the user in the driver’s seat

AI Engine

Interacting with parameters,
in order to influence the AI

AI Engine

Interacting with solutions,
assisted throughout by the AI

Supporting the creative process

AI support

Site insights and tendencies

AI support

Predicting AI generated outcome

AI support

Iterate & refine specific solutions

AI support

Insights from the solution space

AI support

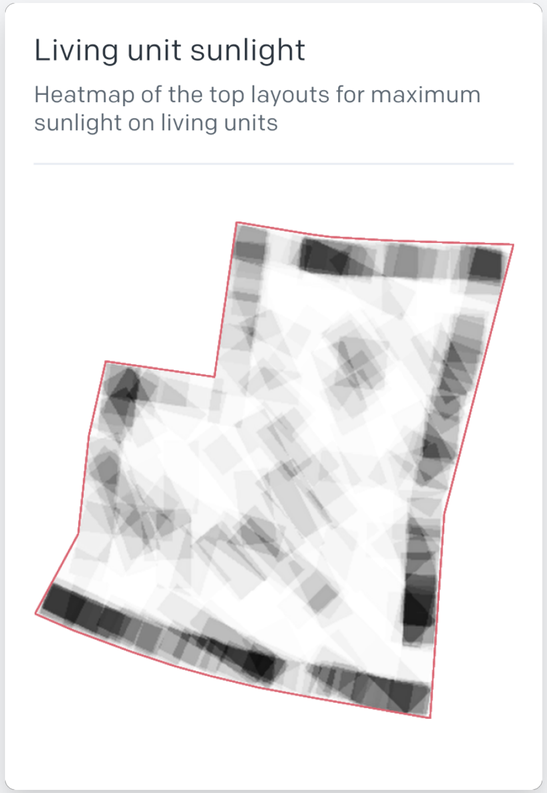
Evaluate solution space possibilites

AI support

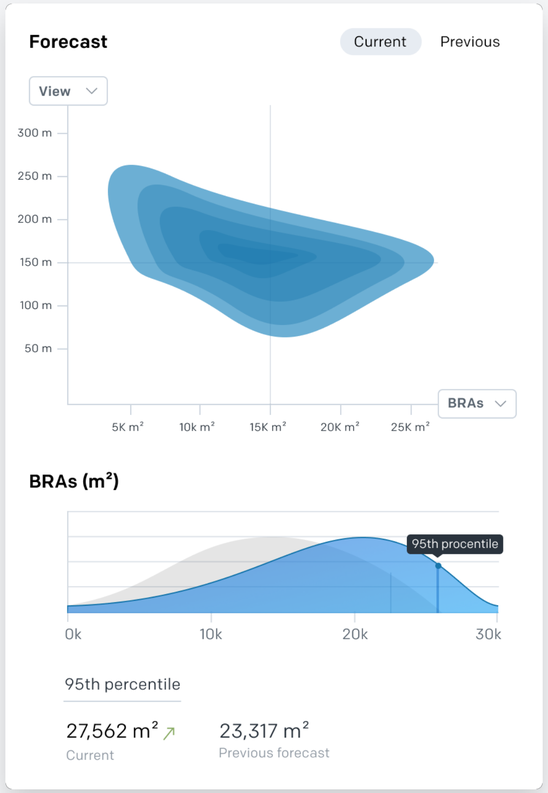
Define and sort architectural structures

Supporting the creative process

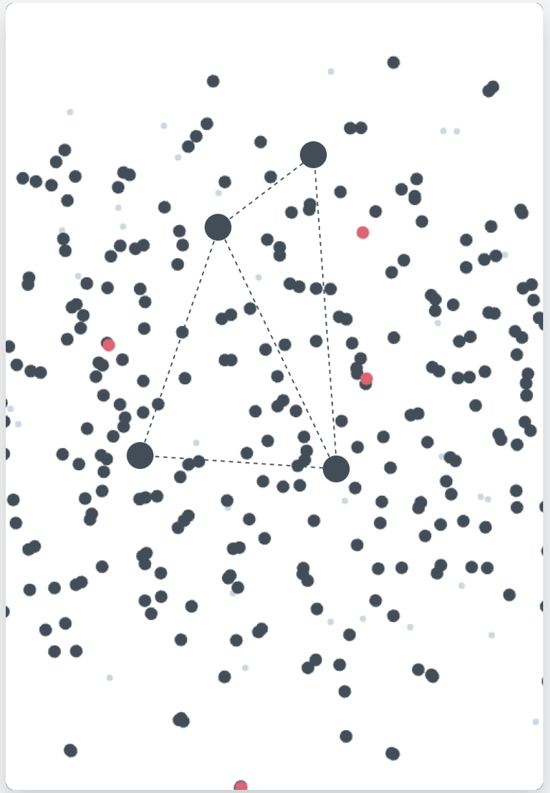
Site insights and tendencies



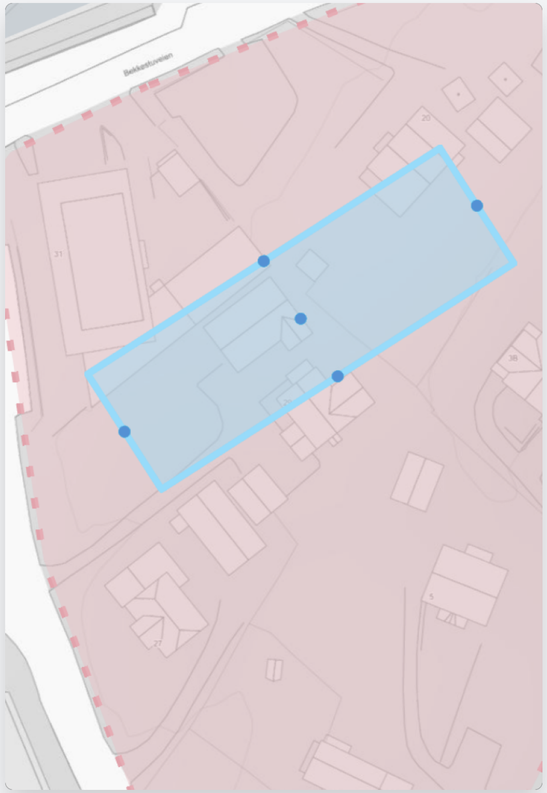
Predicting AI generated outcome



Insights from the solution space



Iterate & refine specific solutions

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