

the future of making

presented by Chris Aerts | 03-07-2020 | P5

Problem statement

New process

Architectural platform

Proof of concept

An aerial night photograph of Amsterdam, showing the city's dense urban landscape, illuminated buildings, and a bridge over a canal. The text is overlaid on the left side of the image.

To meet demand, the Netherlands will
need to construct an estimated extra
one million homes by 2030.



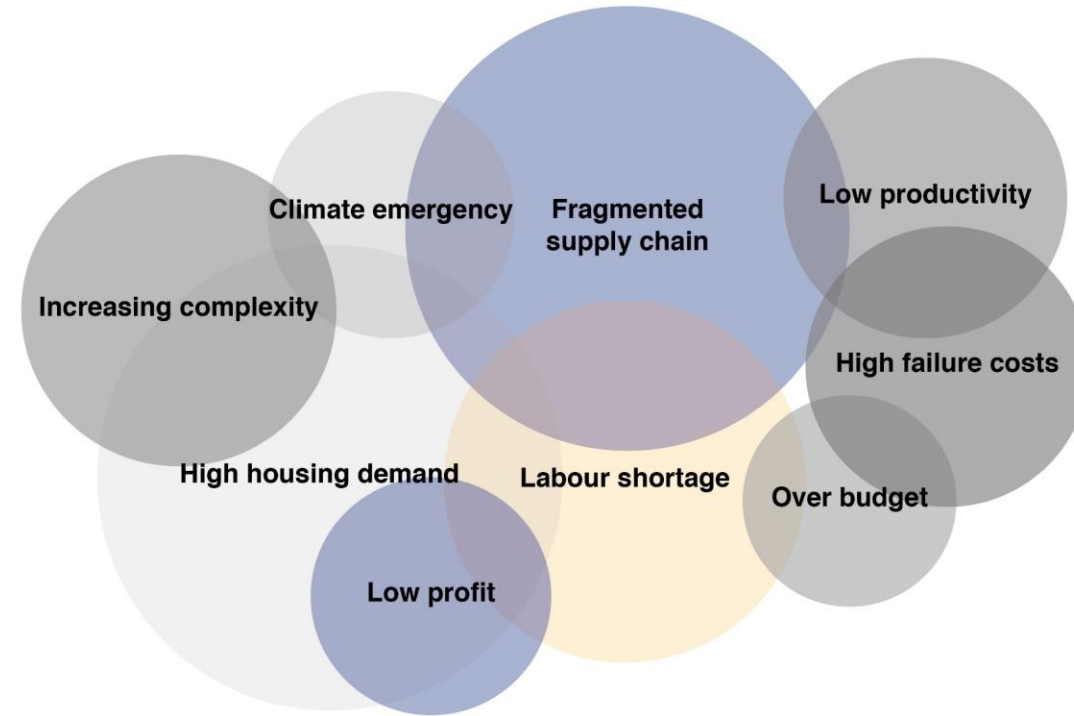
Depletion



On-site



Integrated



The built environment is in desperate need of a game changing approach



We must learn from succesful industries



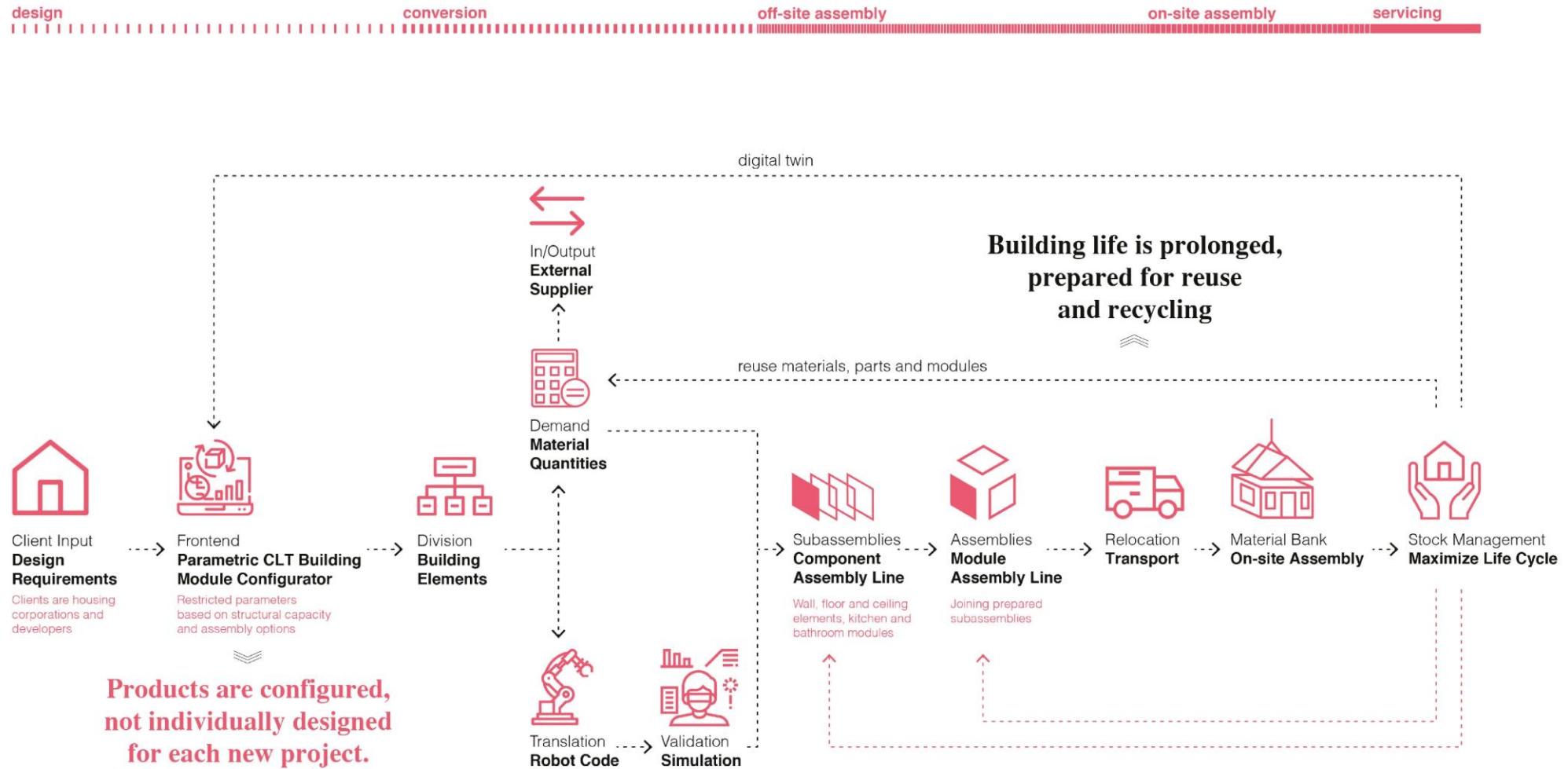
Platform thinking

the future of making



**Build beautiful buildings, faster, of higher quality,
more sustainable and at a lower cost.**



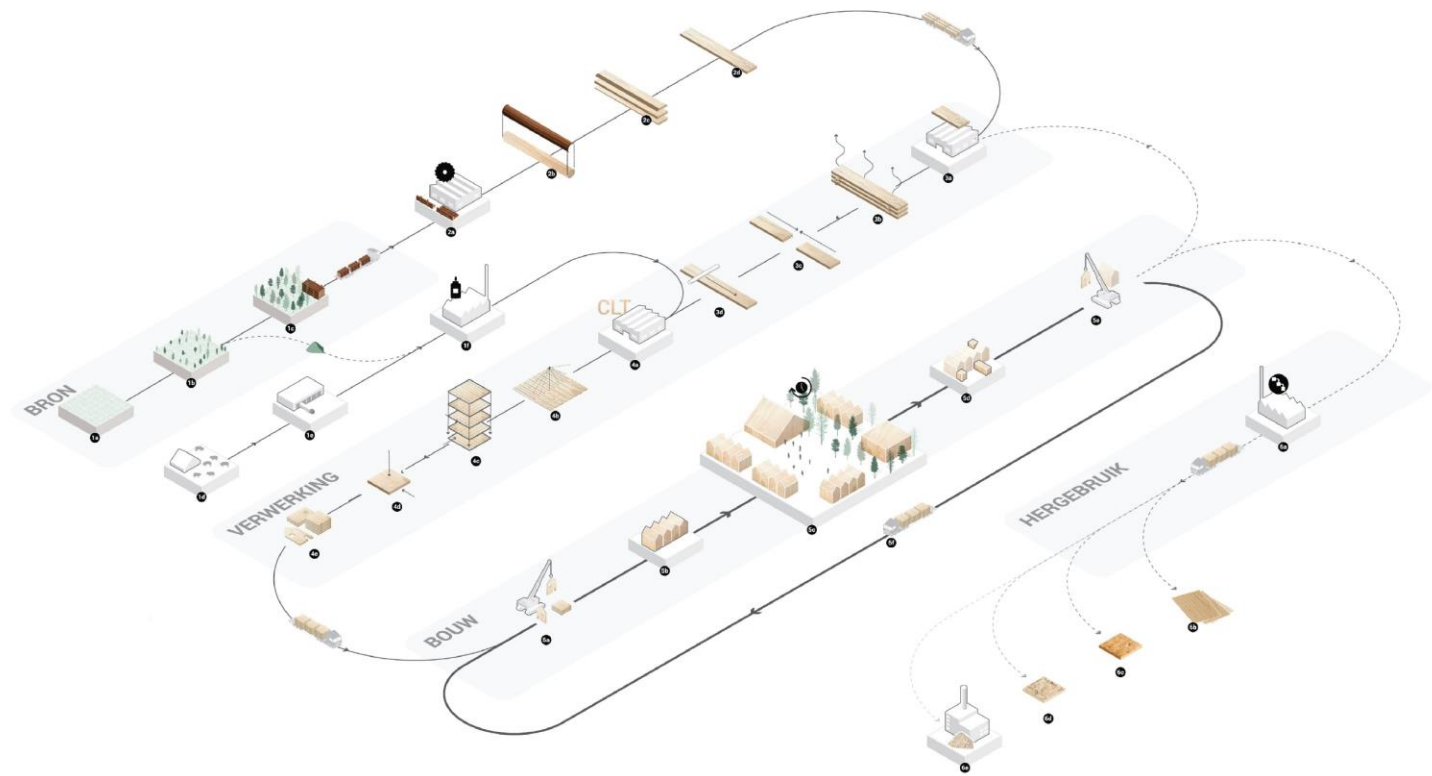


SKALA main platform material



CLT is a renewable, machineable, lightweight and durable structural material

Source: Ledinek



Source: Province of South-Holland



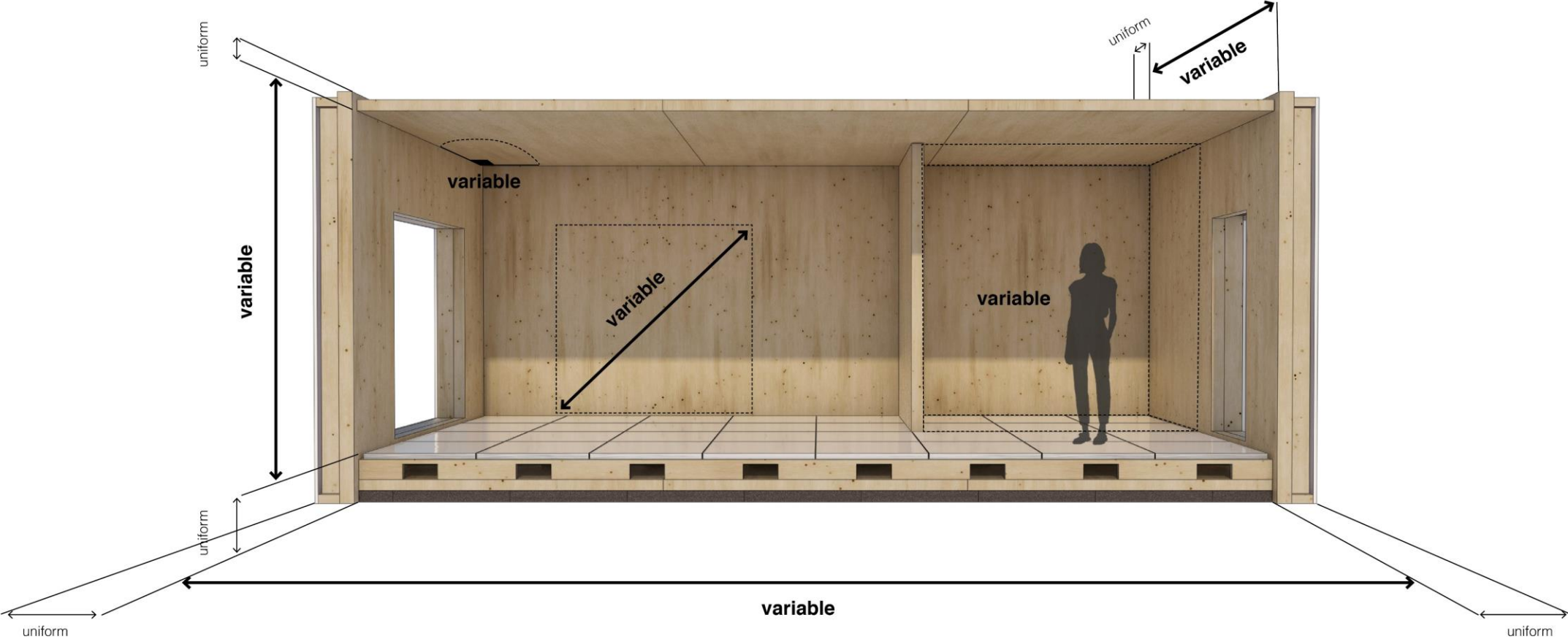
SKALA construction platform

Market fit parameters

Urban, customizable, modular and leading sustainability











Certificaat

De hoeveelheid vastgelegde CO₂ in de houtproducten is 8.404 kg

	Houtvolume van de producten: 13.5m ³
	De Europese bossen slaan deze hoeveelheid CO ₂ op in: Minder dan één seconde
	Vastgelegde CO ₂ in de houtproducten: 8.404 kg CO ₂

Dit compenseert:

	Uitstoot van 70.622 km aan uitlaatgassen van een middenklasse auto
	Elektriciteitsverbruik van 9 huishoudens in één jaar tijd

Dit certificaat werd uitgegeven door de Centrum Hout rekenmodule Opslag van CO₂ in hout. De waarden op dit certificaat zijn indicaties. Aan de uitkomsten kunnen geen rechten worden ontleend. Centrum Hout kan niet verantwoordelijk worden gesteld voor oneigenlijk gebruik hiervan. Om zelf de vastgelegde CO₂ in uw houtproducten te berekenen of voor meer informatie over de totstandkoming van de berekening kan u terecht op <http://www.centrum-hout.nl>.



single module

SKALA digital layer

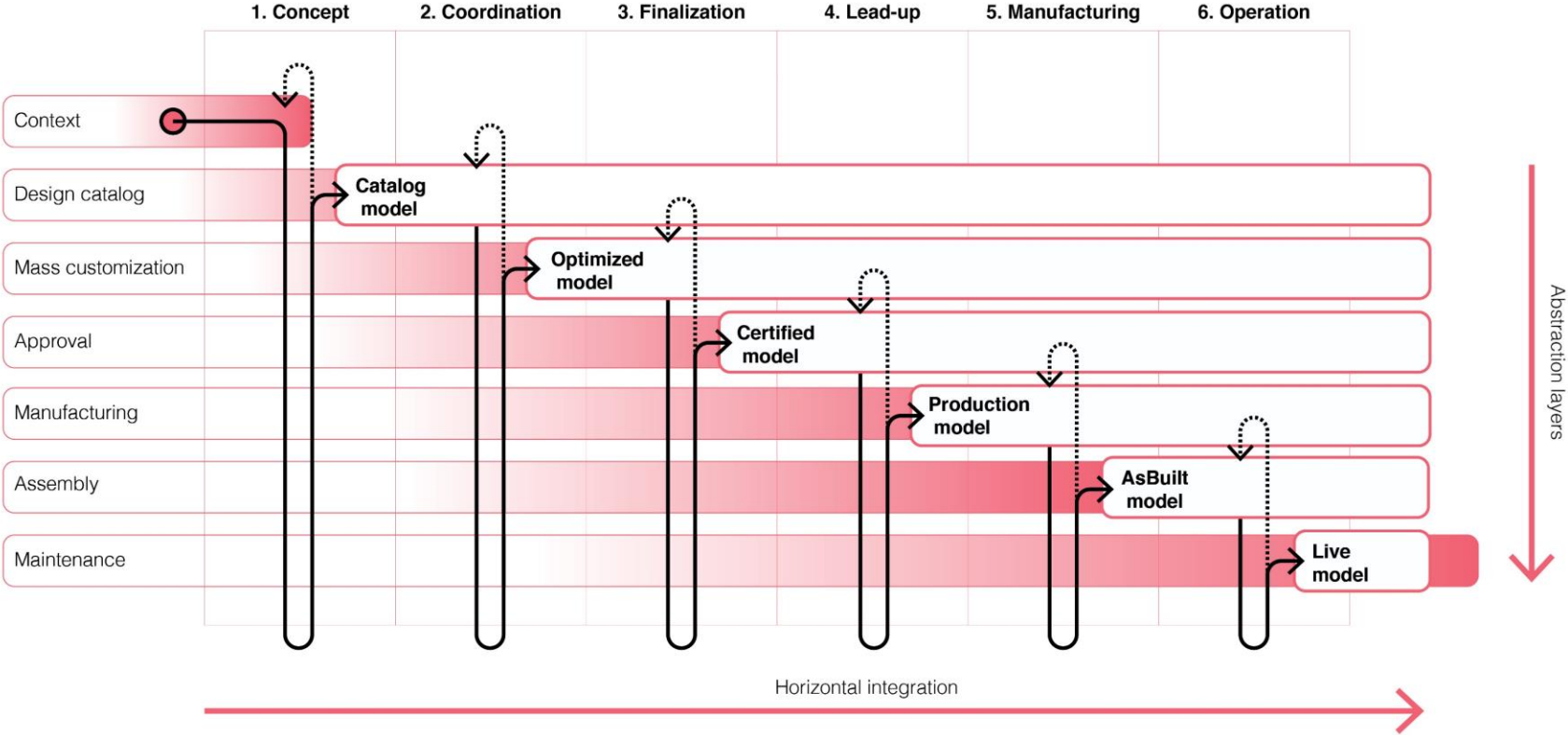
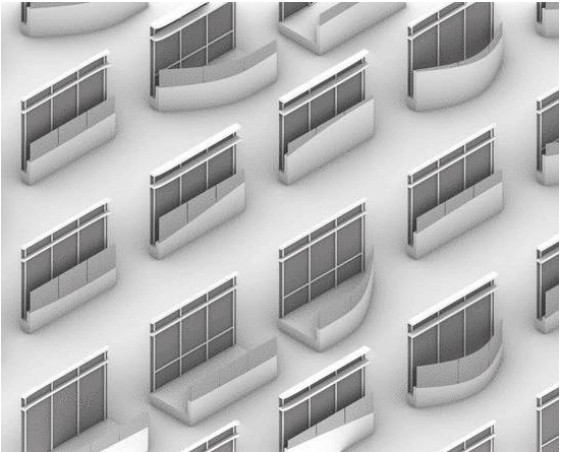
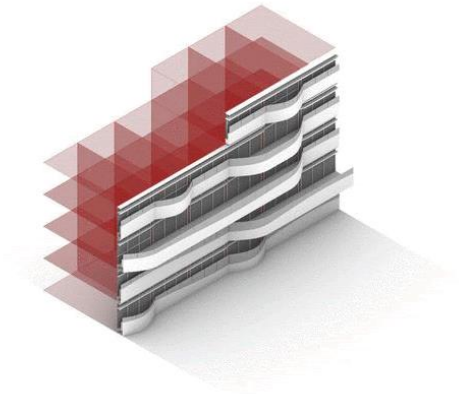
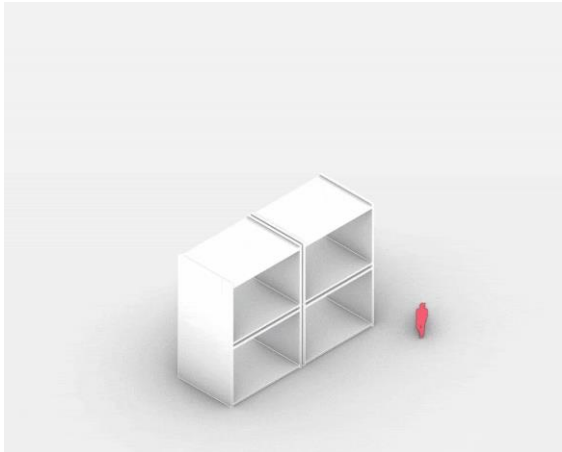
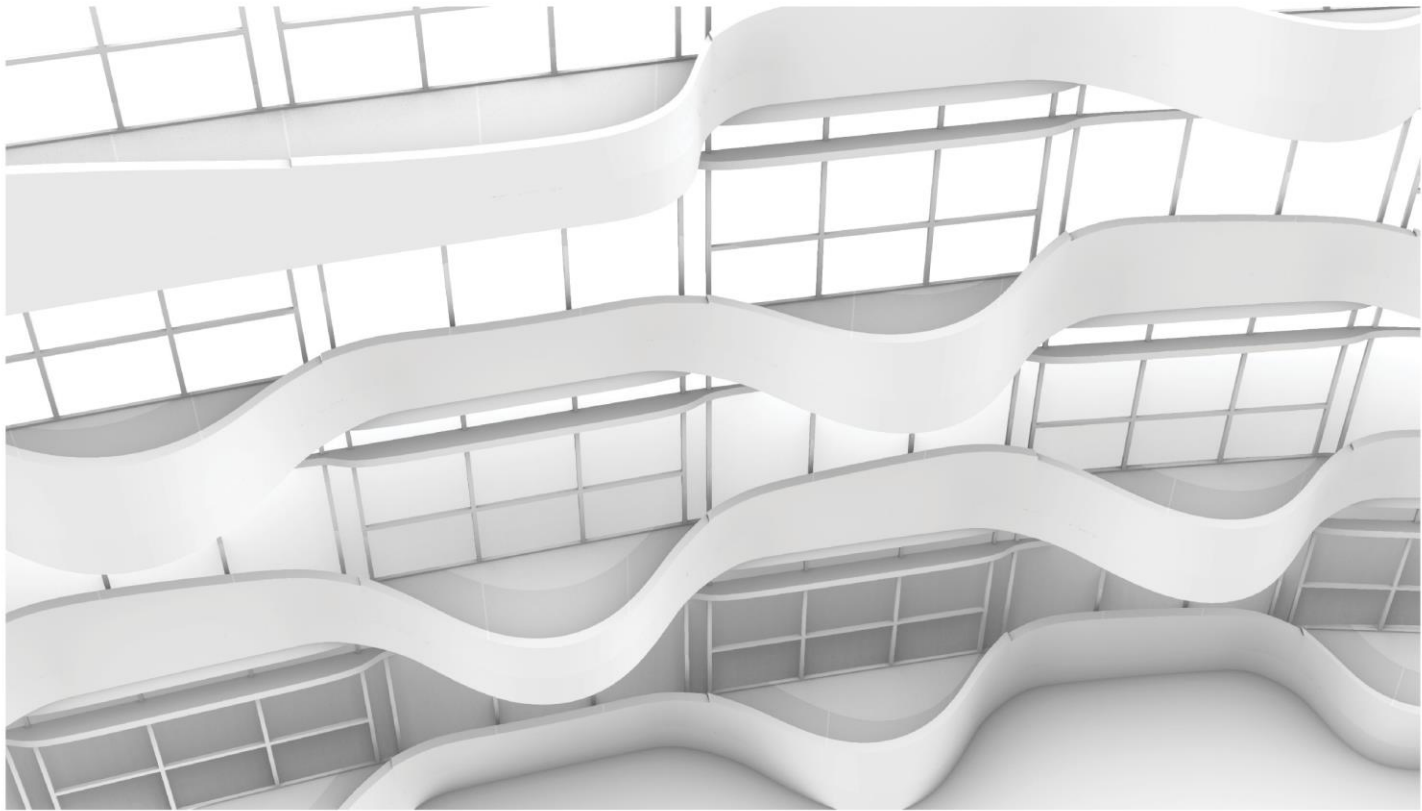
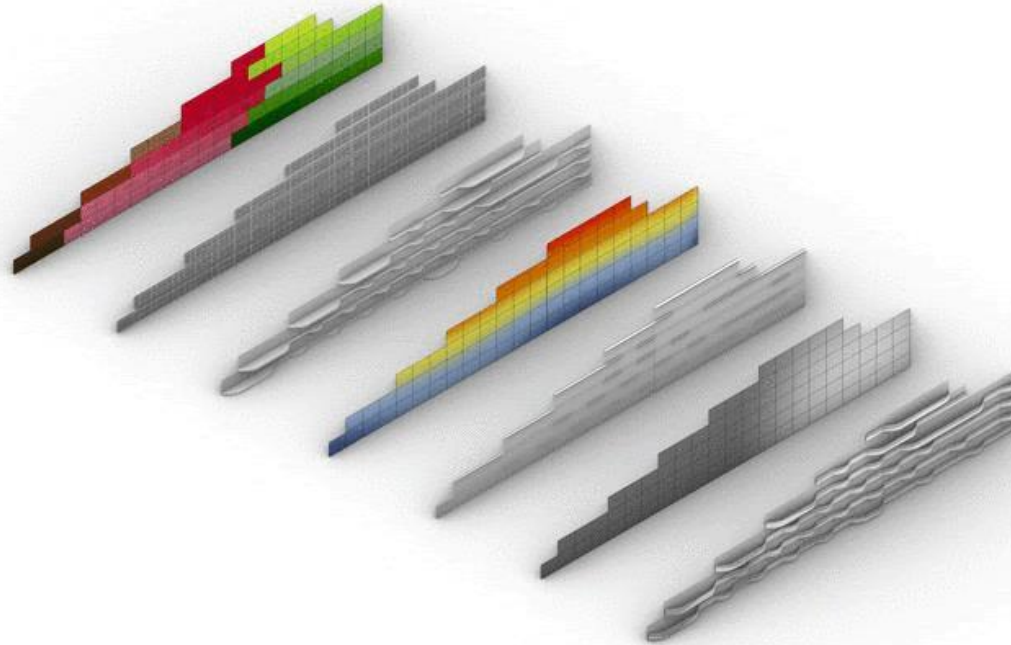


diagram layout principle from design-to-production, remodeled by Chris Aerts



Platform facades





Function distribution

Solar radiation

Enhanced views

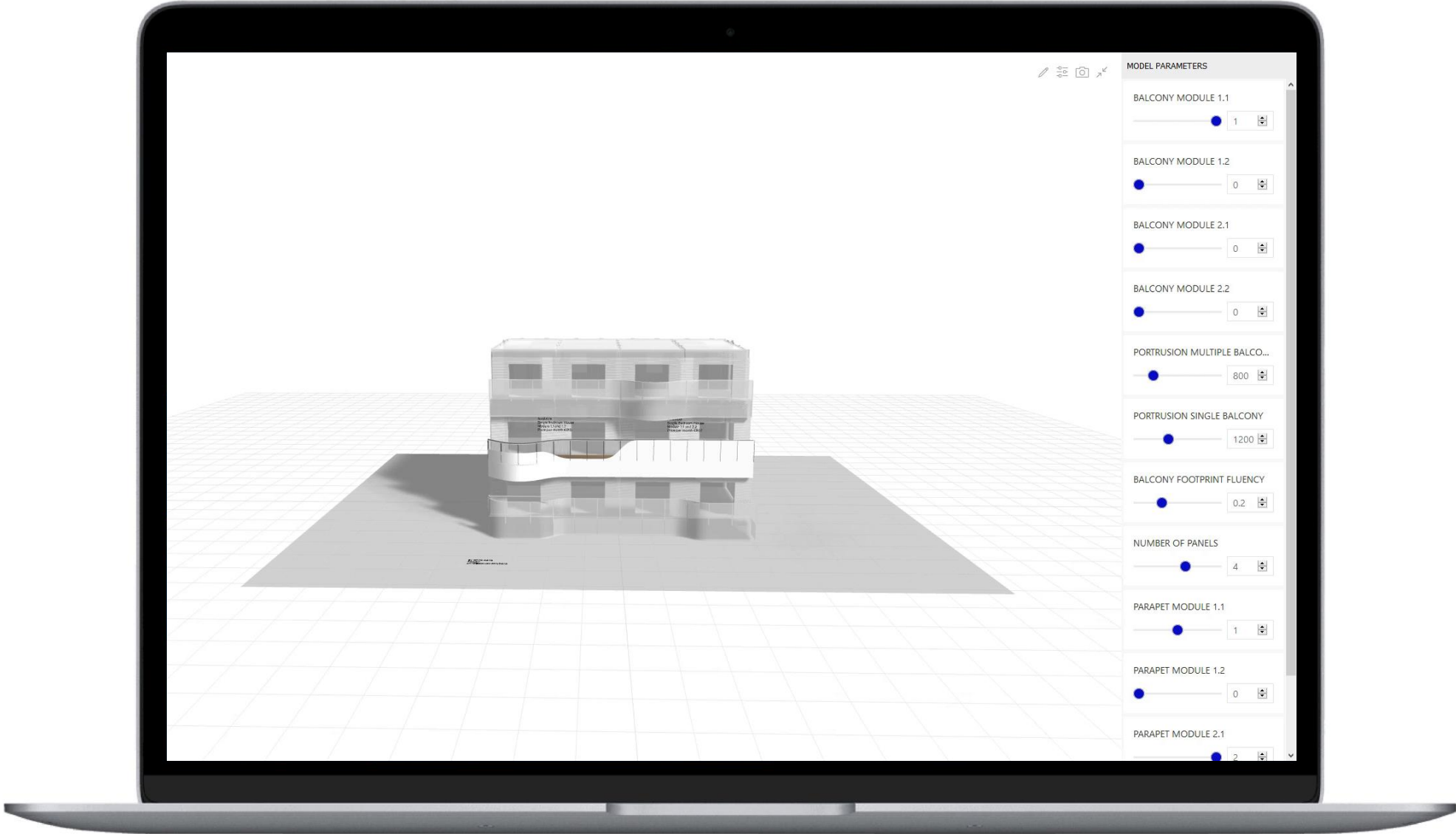
Ventilation

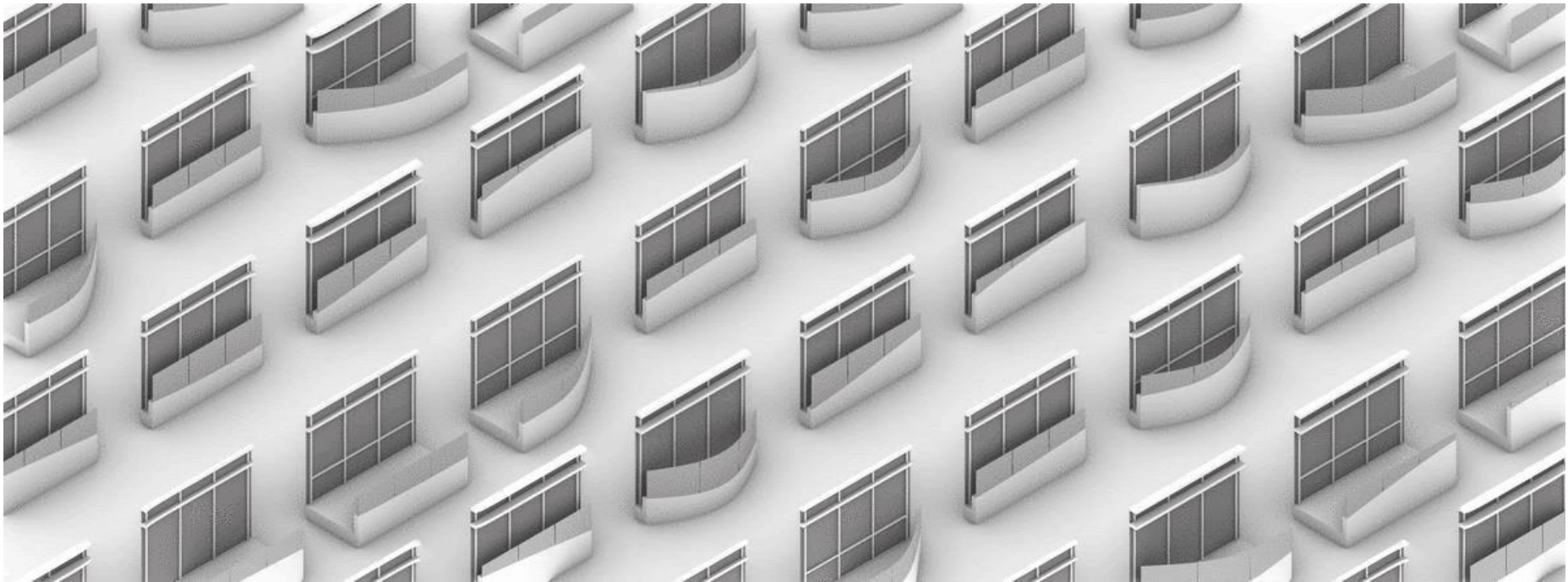
Daylight

Noise

Energy generation

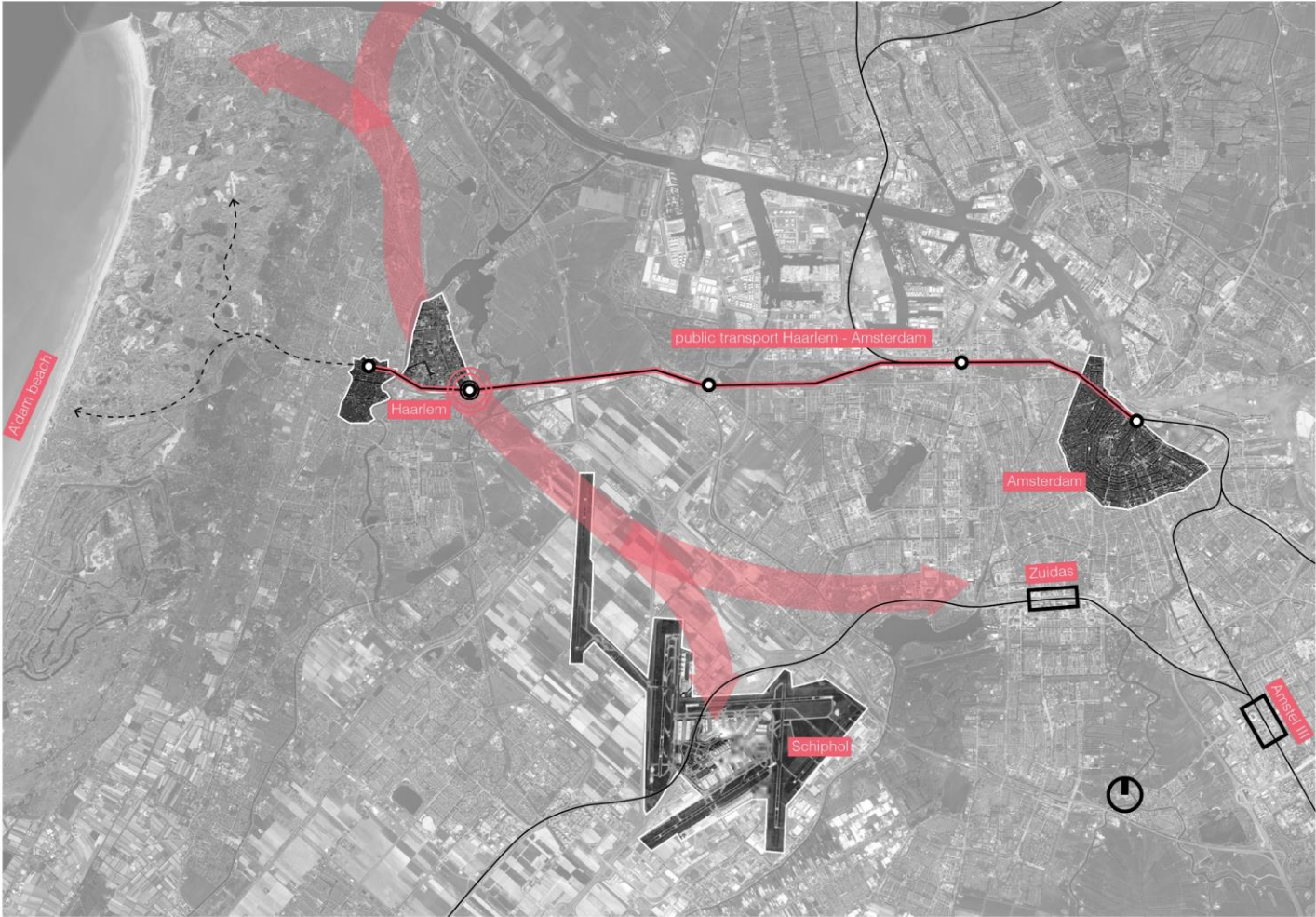
Integrating customer and certifying parties in the parametric design strategy

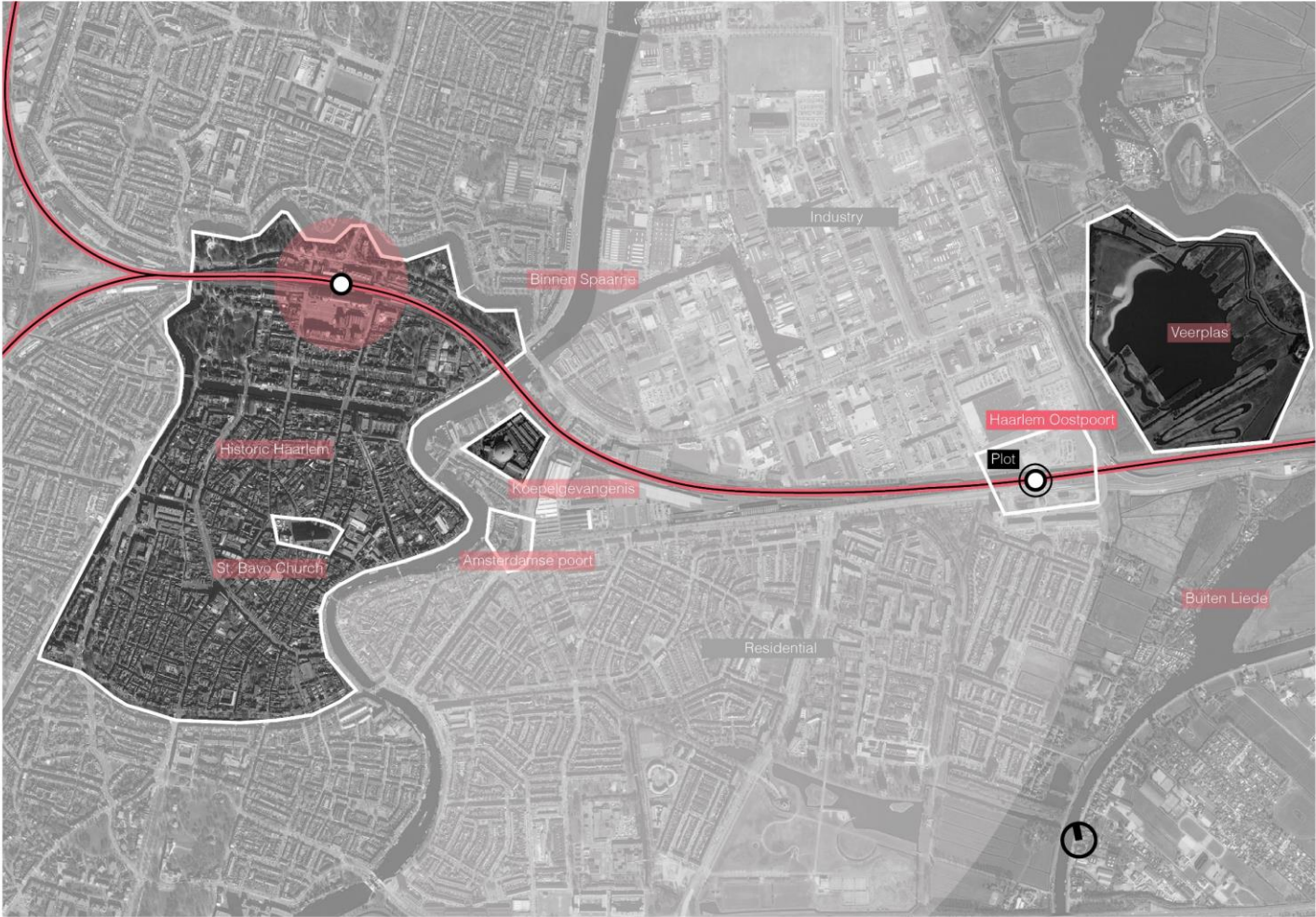


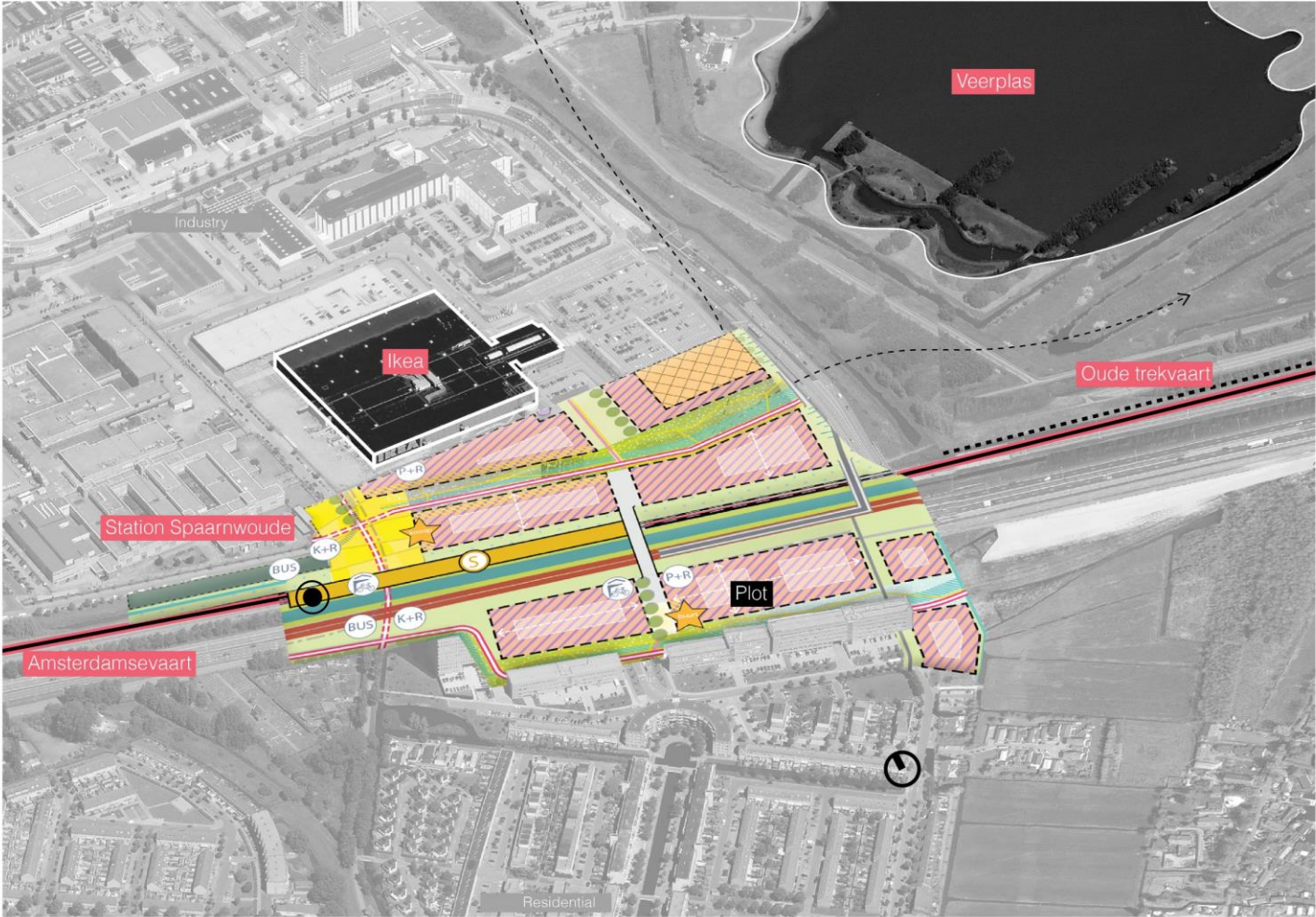


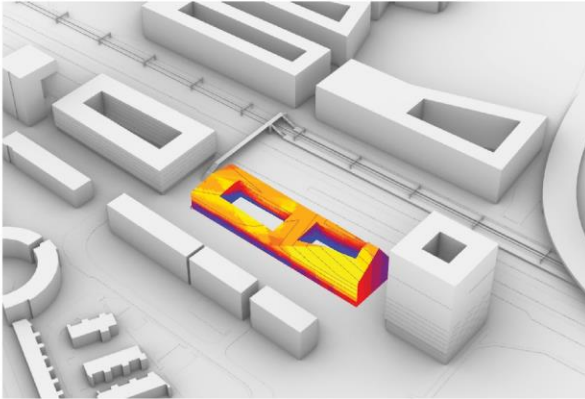
Live platform component feed

Proof of concept

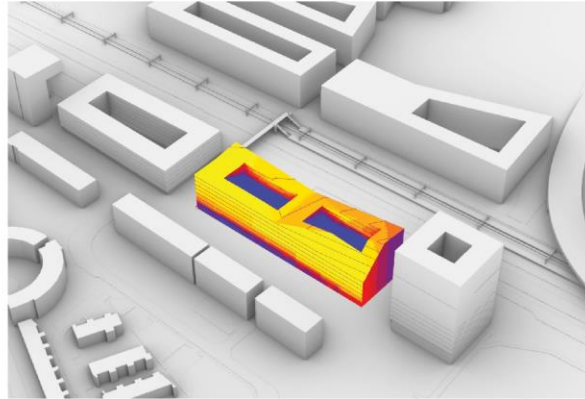




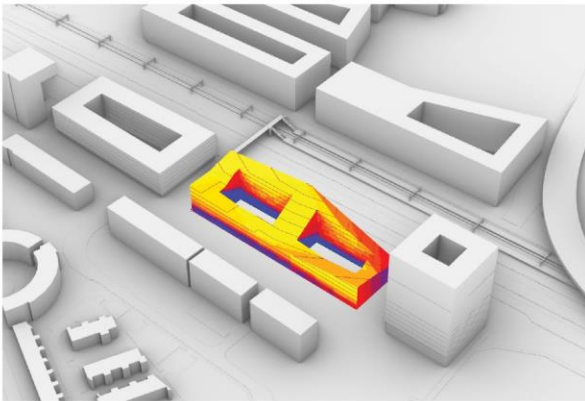




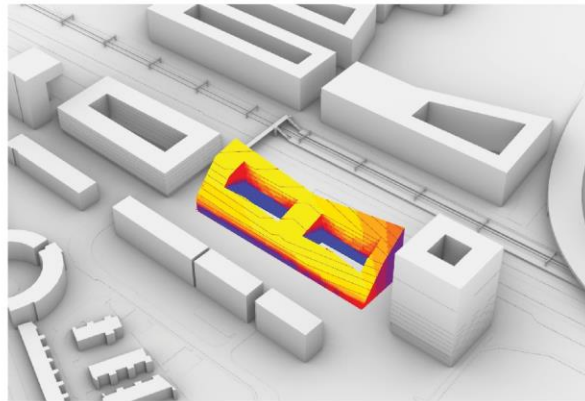
Iteration 30



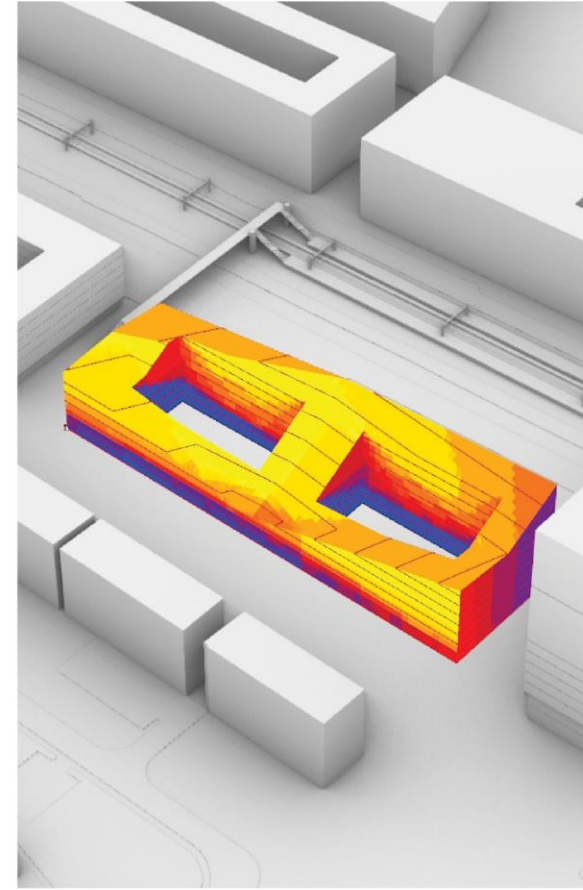
Iteration 100



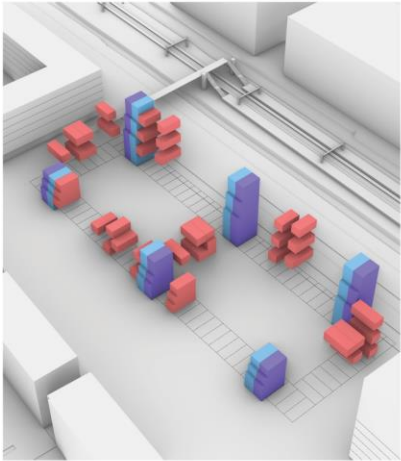
Iteration 230



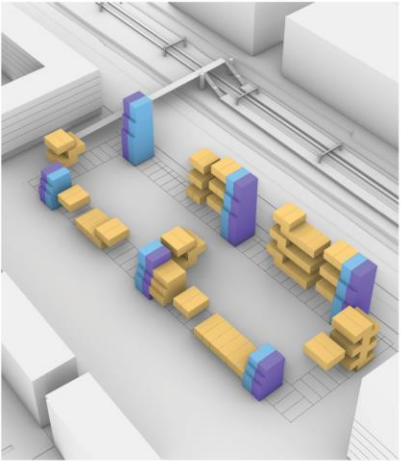
Iteration 360



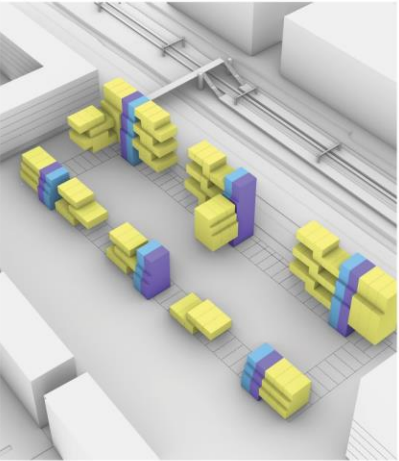
Weighted parameters solution



single module house
49 houses



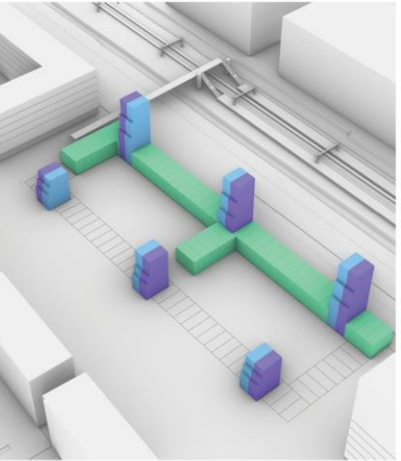
double module house
48 houses



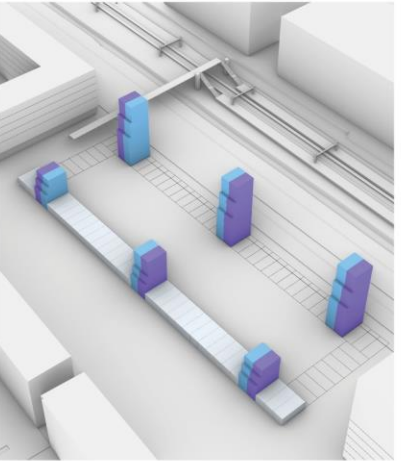
triple module house
58 houses



double storey module house
21 houses

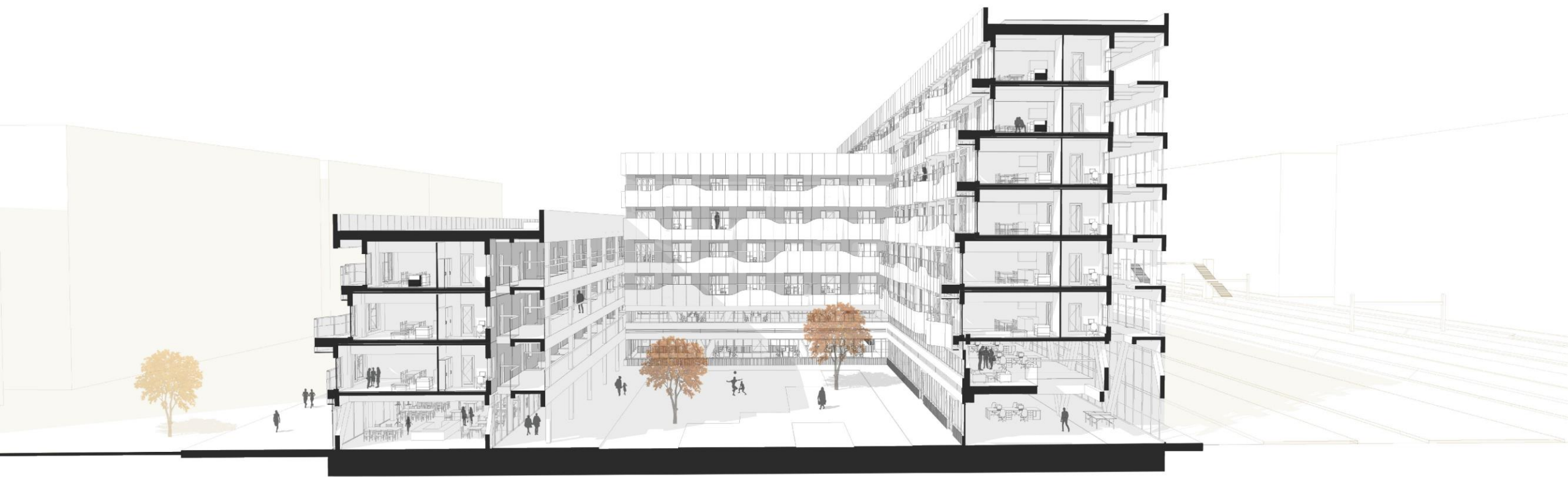


workspace
116 volumes



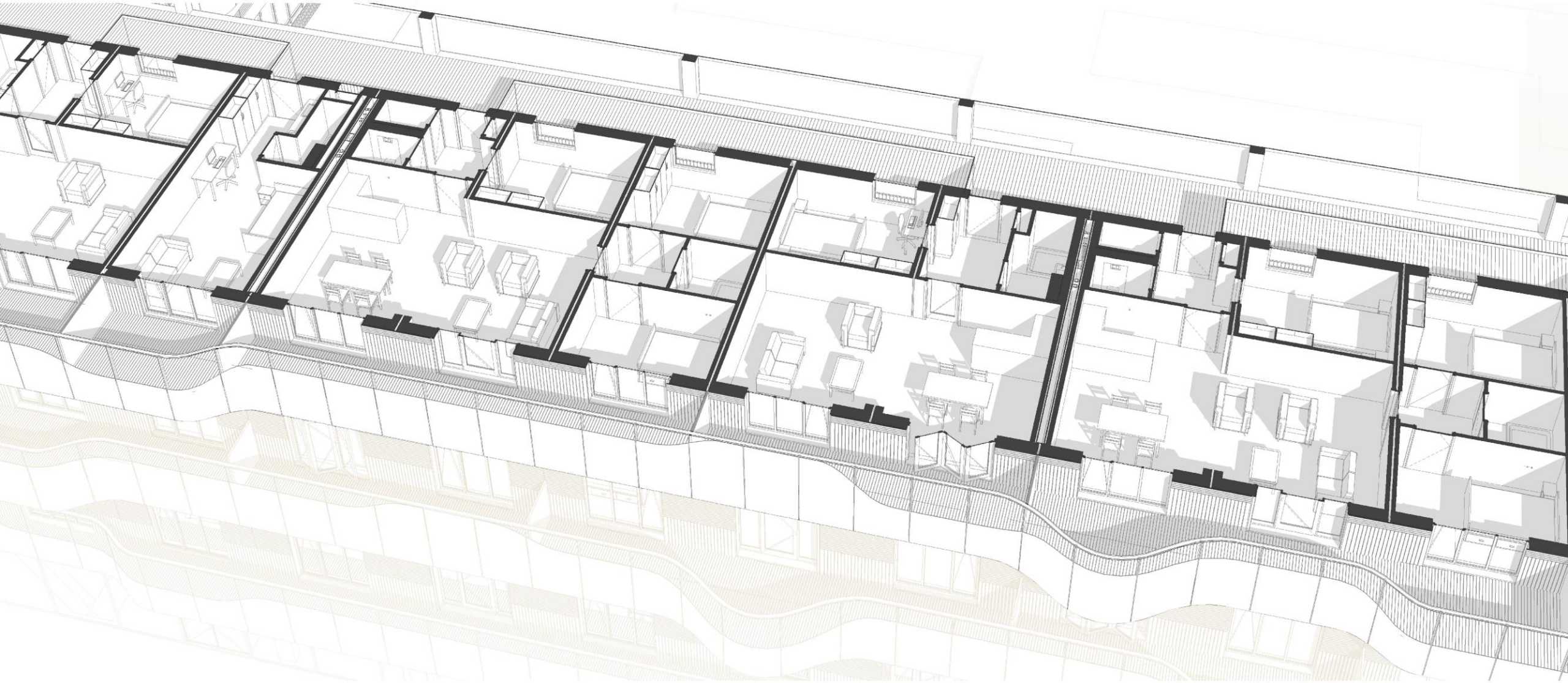
amenities
64 volumes

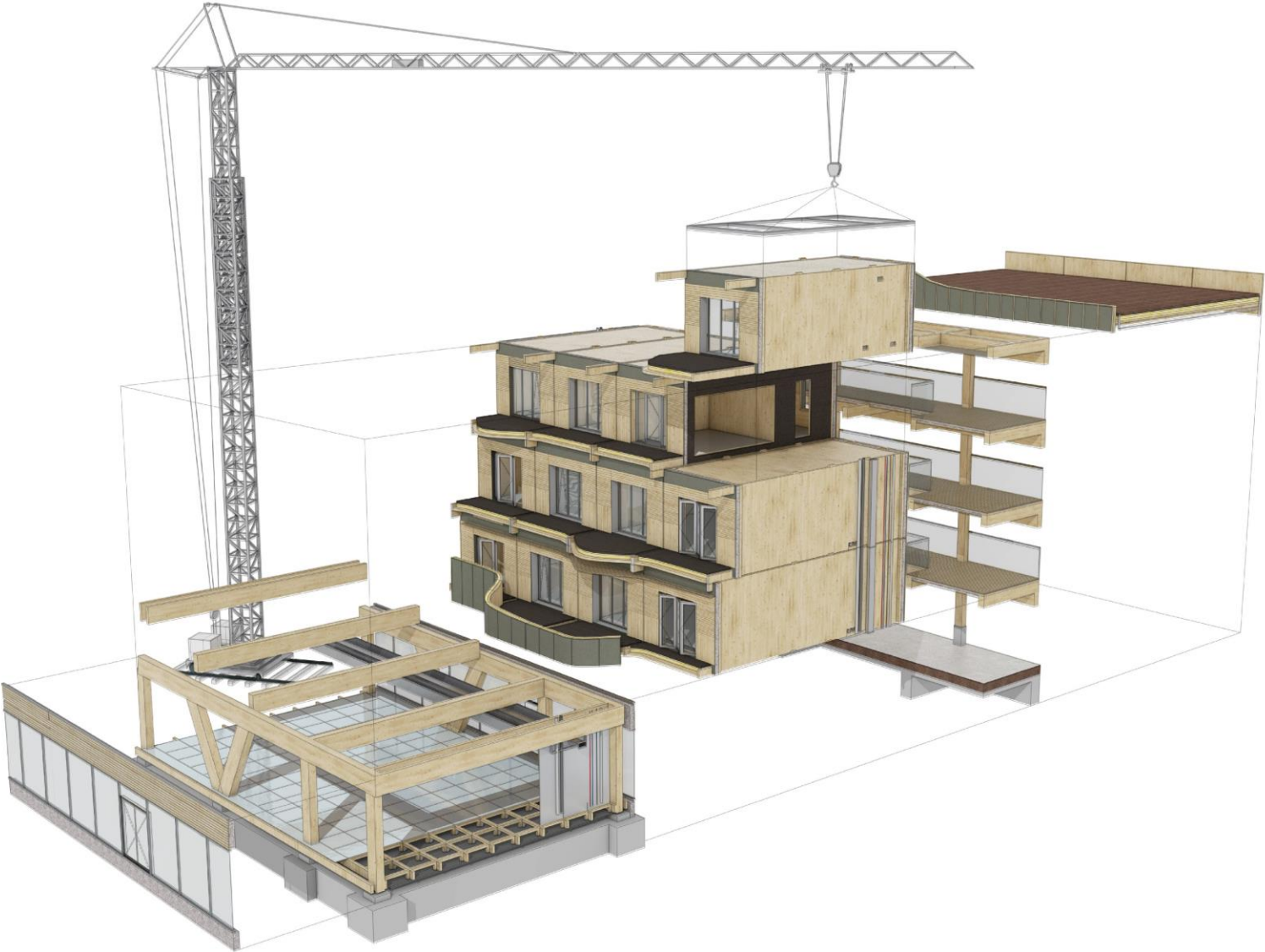
High density living, working and leisure











Energy generating potential

1500m² facade
4200m² rooftop

Net zero homes plus more



173 households, 3.200m² amenities, 10.000 m² workspace



Certificaat

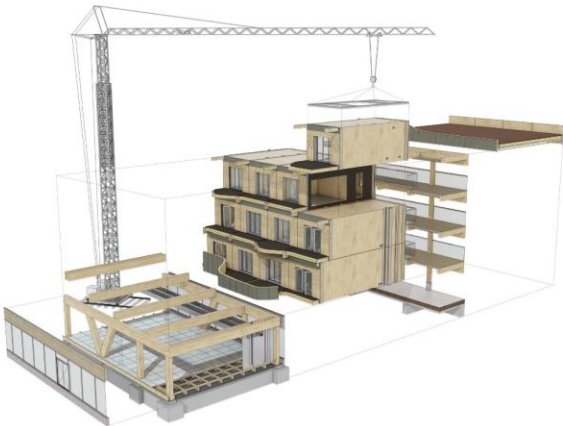
De hoeveelheid vastgelegde CO₂ in de houtproducten is 3.860.053 kg

	Houtvolume van de producten: 6200m ³
	De Europese bossen slaan deze hoeveelheid CO ₂ op in: 4 minuten en 44 seconden
	Vastgelegde CO ₂ in de houtproducten: 3.860.053 kg CO ₂

Dit compenseert:

	Uitstoot van 32.437.420 km aan uitlaatgassen van een middenklasse auto
	Elektriciteitsverbruik van 4288 huishoudens in één jaar tijd

Dit certificaat werd uitgegeven door de Centrum Hout rekenmodule Opslag van CO₂ in hout. De waarden op dit certificaat zijn indicaties. Aan de uitkomsten kunnen geen rechten worden ontleend. Centrum Hout kan niet verantwoordelijk worden gesteld voor oneigenlijk gebruik hiervan. Om zelf de vastgelegde CO₂ in uw houtproducten te berekenen of voor meer informatie over de totstandkoming van de berekening kan u terecht op <http://www.centrum-hout.nl>.

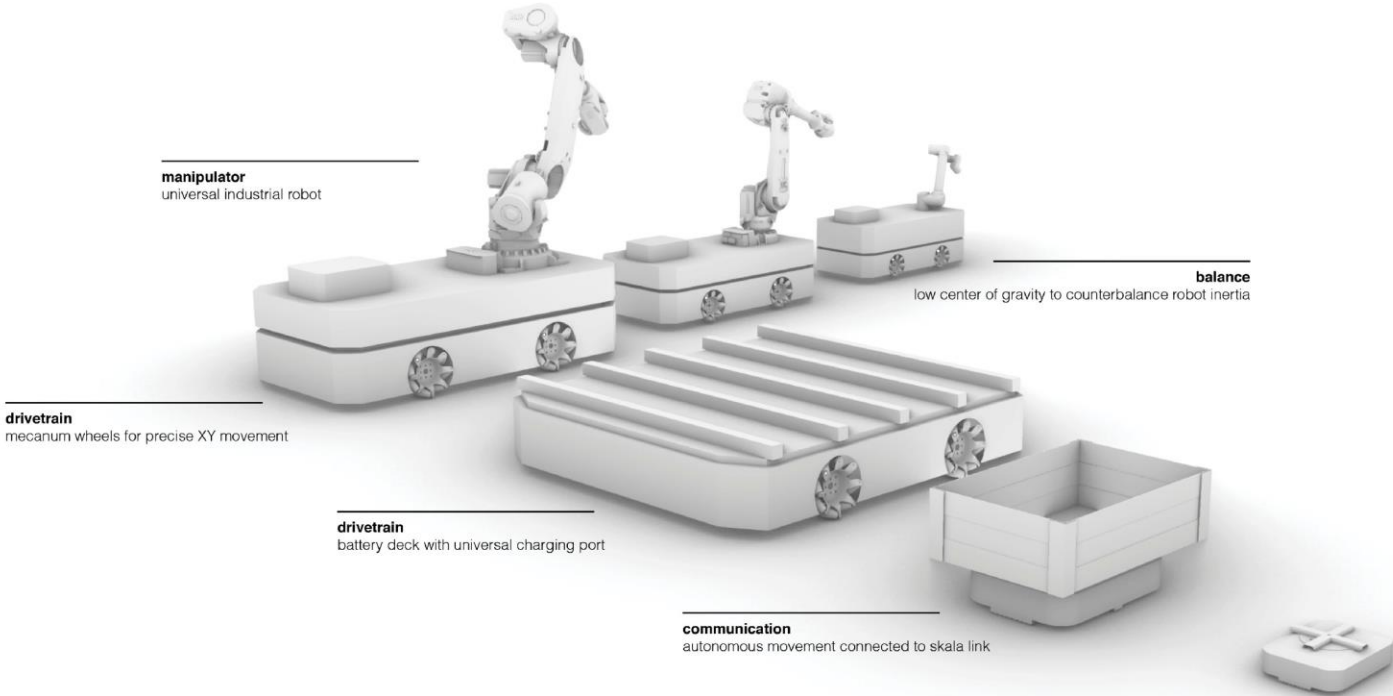


173 households, 3.200m² amenities, 10.000 m² workspace

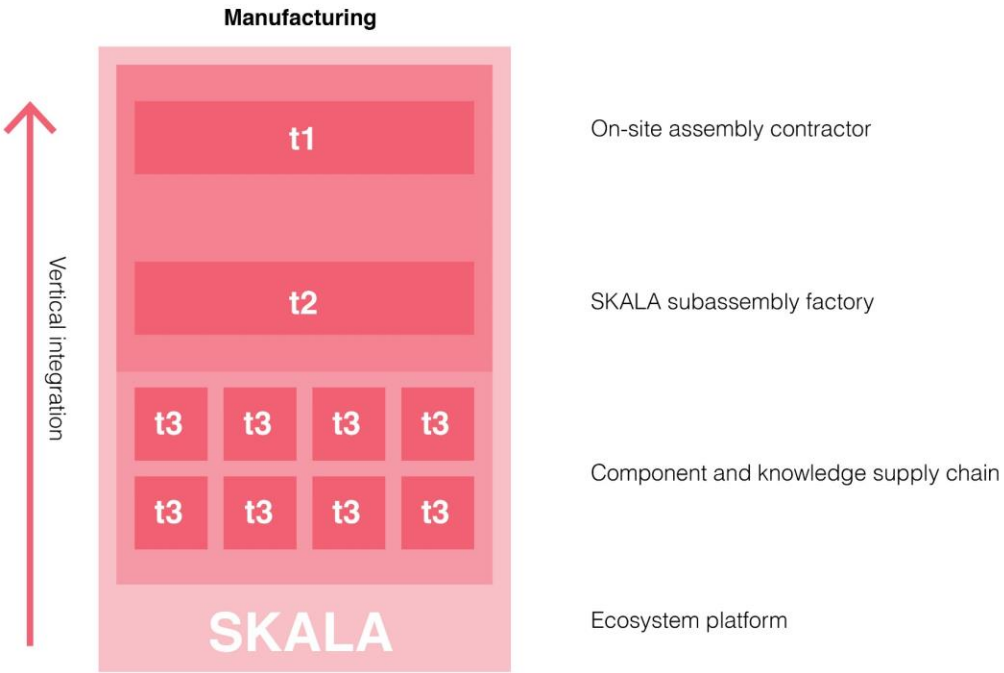


are you onboard?

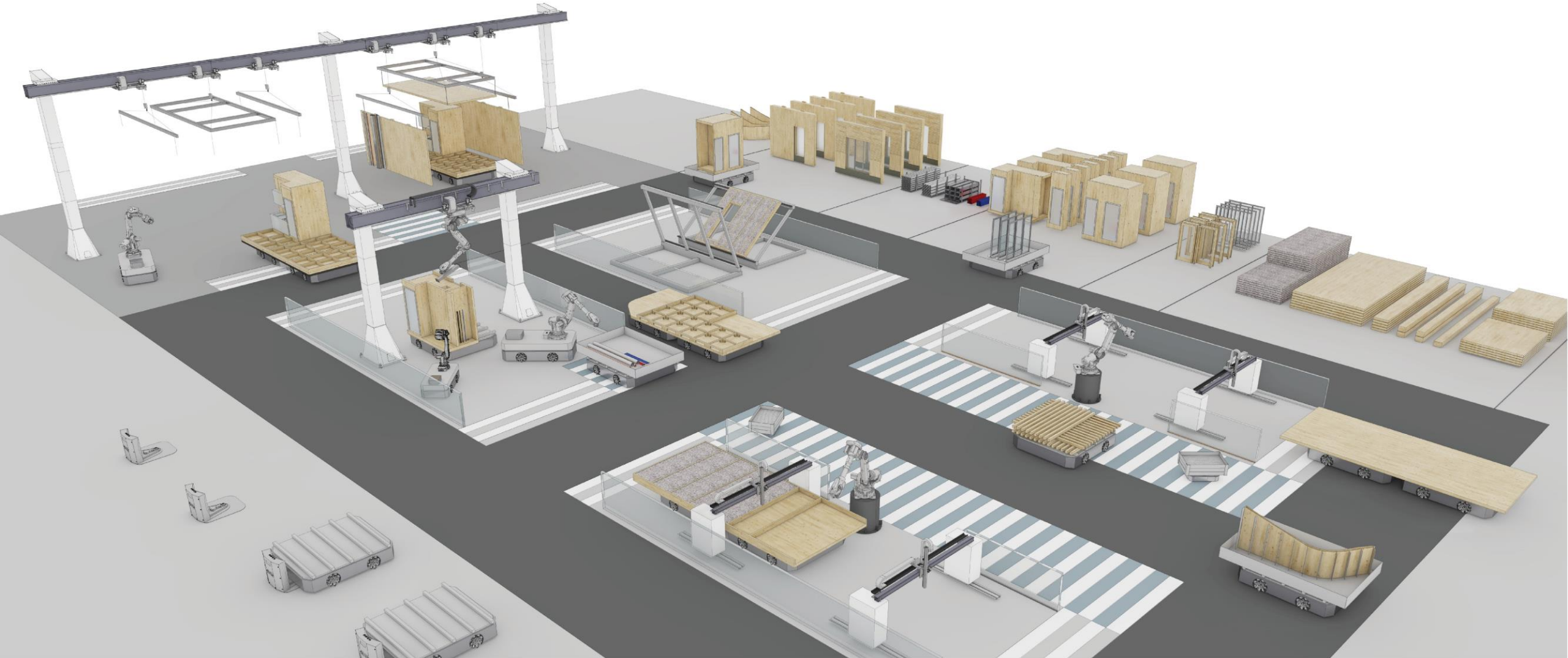
Industry 4.0

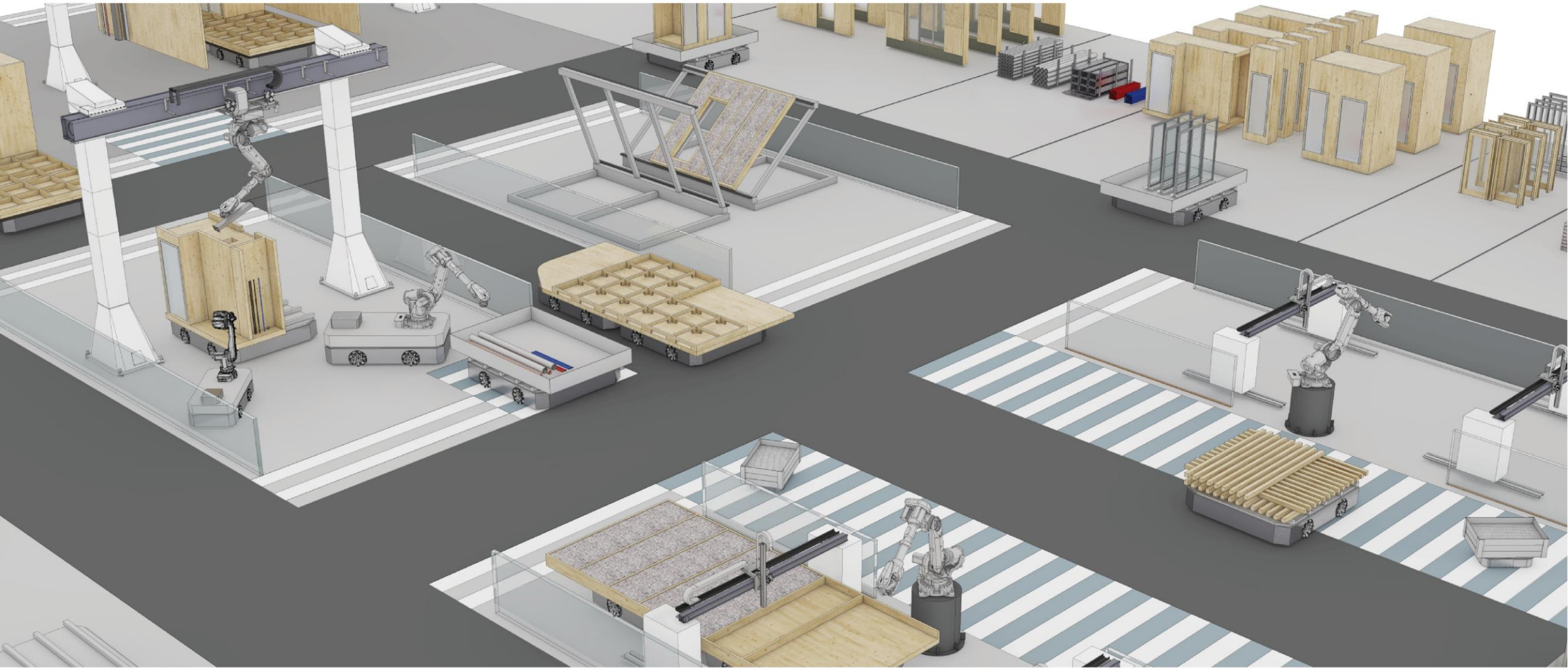


Flexible manufacturing

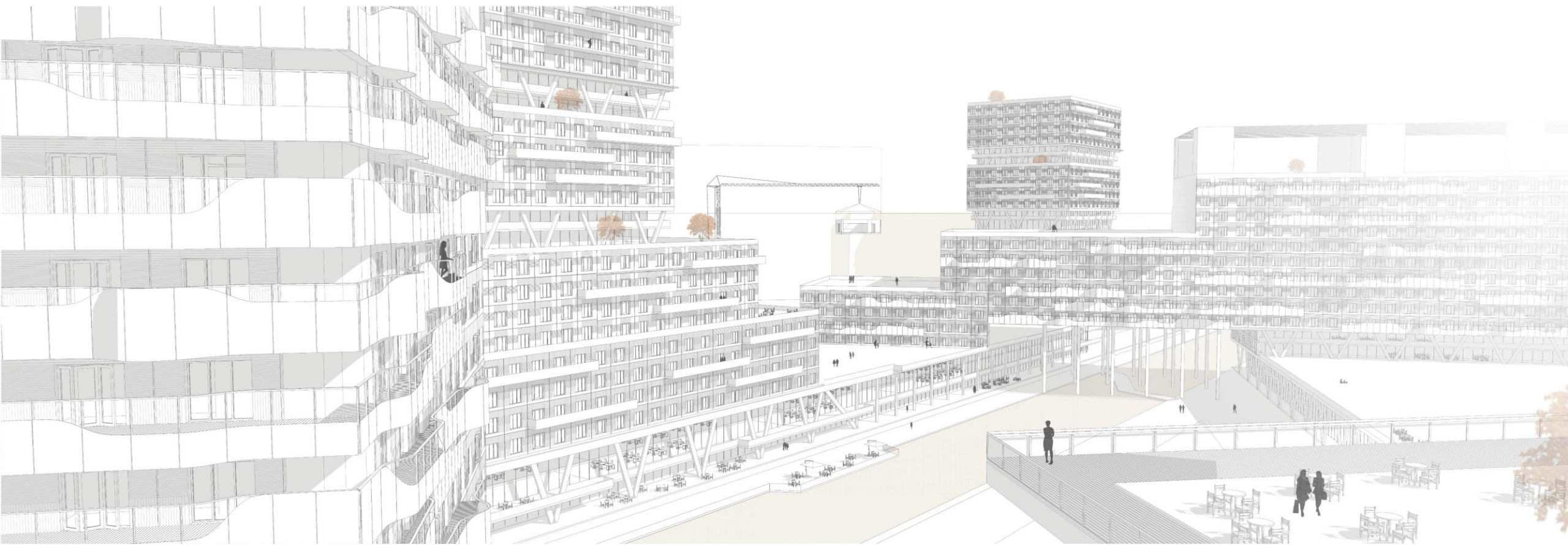


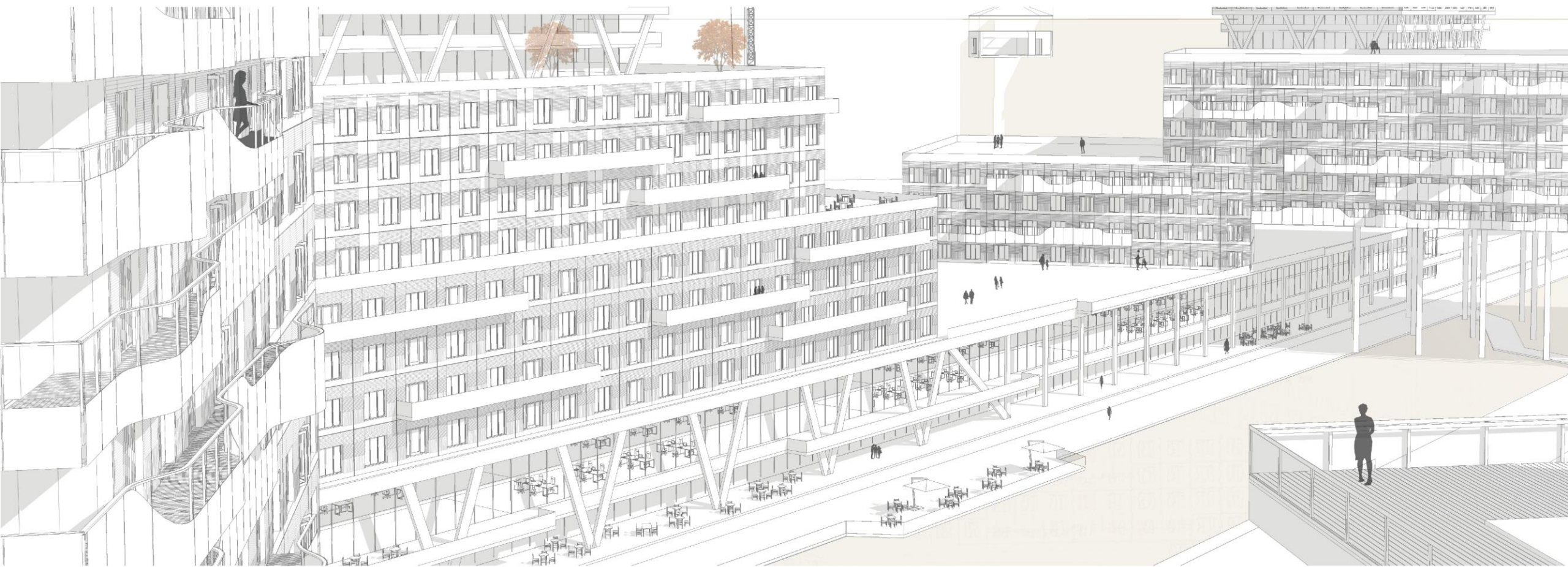
Enabling servicification of knowledge, manufacturing and building-assets

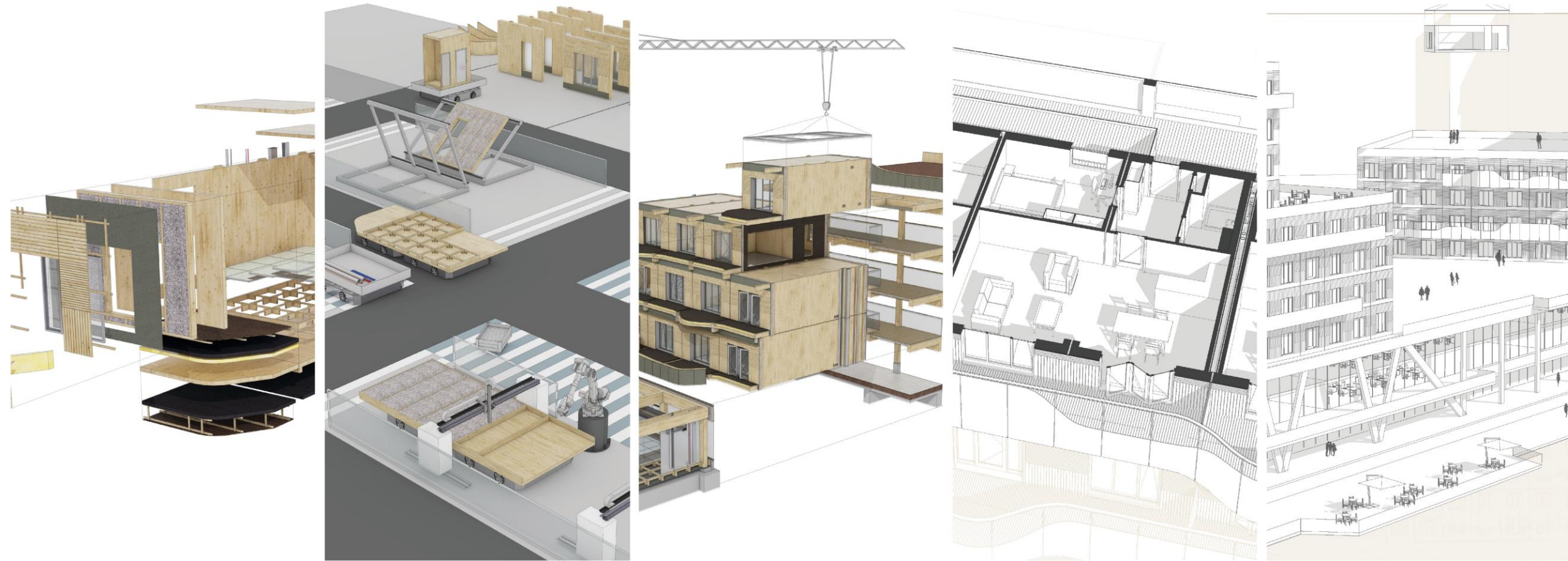




The Future of Cities







The power of integration



SKALA is expanding

Let's make it happen

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