

Atop

Developing a future-proof upper city

powered by
Superworld

Contact

Superworld

Beukelsdijk 91A-01
3022 DJ Rotterdam
+31 6 27 226 048
info@superworld.nl

Maxime Cunin | max@superworld.nl
Thomas Krall | thomas@superworld.nl

Initiative

Atop

www.atop.city

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Developing a future-proof upper city

**1 IN
SHORT**

ATOP goals are to

- (1) incentivize the sustainable construction of 1.000 affordable homes in Rotterdam by 2030 by using existing buildings roofscape as area of development while**
- (2) accelerating the energy retrofitting of 200 buildings by 2030 by providing new financing opportunities to Rotterdam small owners and VvE's of residential buildings.**

Driving mission

Intended long term impact

The long-term goals are both to increase the number of sustainable homes in Rotterdam and accelerate the energy transition of the existing built environment of the city. According to our studies, we estimate that we could incentivize the sustainable construction of 1000 affordable homes in Rotterdam by using existing buildings roofscape as area of development by 2030. Also, if we want to believe that a carbon neutral city is a reachable future, we ought to reimagine business models of energy retrofitting, accessible to all, within the existing city fabric. Preserving and extending lives of existing buildings by adding more units, brings new finance stream for maintenance and energy retrofitting, while reducing the amount of demolished building and the waste associated with it. A conservative estimate is to aim to generate the energy retrofitting of 200 buildings by 2030 by providing new financing opportunities to Rotterdam owners and VVe's of multi-residential units buildings.

Intended short term impact

The platform is a first step of democratization of information and thus providing access to potential rooftop development to a much broader audience that is now the case. It provides the necessary information as an interactive tool for every citizen to be aware of the potential of rooftop development of homes and what it could mean for them. It is the first step towards the construction of sustainable new homes and the energy retrofit of existing buildings. By the end of 2022, we expect at least 1.000 individual interactions of citizens with their own buildings, which mean as many people that could be triggered to engage in the topping-up of their own building. The platform will also bridge citizens to professionals who can help them to concretize the intervention. From these preliminary interactions, we expect to follow 100 leads as taking the first steps to evaluate with professionals the possibilities of their rooftop development by the end of 2022.

Intermediate state

Once the web platform is in place, early of 2022, we will be able to collect information from specific users and have a critical look at how many people have been reached by the initiative and how many leads have been followed. This will give us precious information about respectively the efficiency of the communication and marketing campaign and the missing parameters for people to be informed and take actions. Part of the accountability strategy, we will closely take a look at the metrics we defined and conduct expert and citizens interviews if there is a discrepancy between the primary targets and the reality on the ground.

Realized impact

Superworld is already exploring the topping-up strategy in the inner-city center of Rotterdam. Currently, Superworld is co-producing a map of the available flat roofscape in Rotterdam with developing potential, as well as co-organizing workshops with professionals and experts of the built environment of Rotterdam and the topping-up building strategy during the Rotterdam Architecture Month 2021. The idea is already having traction amongst public and private sector as a scalable strategy of development. This is one of the proves of the validity of the proposal both technically and financially for the centralized players such as housing associations and private developers. ATOP as an interactive informative platform is a necessary extension of this conversation, a proactive bottom-up initiative to integrate decentralized homeowners and democratize the development of rooftop.

Social contributions

Giving the opportunity to stay freely, safely and comfortably in sustainable homes in Rotterdam

Rotterdam is in dire need of new homes. The business as usual of real estate development is on the one side leaving many of the citizens out of the process, and on the other not being able to deliver the annual amount of new homes set by the municipality. Moreover, from this already small amount of new homes, a great share will be bought by investors instead of by private home owners.

ATOP is a web platform aimed to incentivize the construction of sustainable homes in Rotterdam. By providing access to information to everyday citizens, it expands the scope of stakeholders invited to take actions in the city and looking for alternative and innovative modes of development of homes in the city, complementing the traditional methods, giving more opportunities to find a place they can call *home* and envision growing in.

Using digital interactive tools to include all citizens in the making of a more sustainable Rotterdam for a new future-proof economy

ATOP is about the democratization of information by giving the right tools in the hands of the many to simulate the potential of vertical extension of your building. The initiative is using web-based interactive tools as a one-stop shop for citizens and VvE's allowing them to simulate the use of their roof to create new homes and exploring it as a financing mechanism for building maintenance or energy retrofitting.

The ownership map of Rotterdam's homes is very diverse and each owner types have different drivers and level of technical knowledge of buildings. ATOP platform aims to inform citizens of the potential of vertical extension of your building, the costs and revenues linked to it, the regulatory and legal framework, inspiring examples of similar interventions. Digital tools are used to lower the threshold of actions, while making sure of an inclusive and sustainable future for Rotterdam and its built environment. ATOP will invest in connecting to existing online and offline networks in Rotterdam in order to connect to its citizen in the most effective way.

2 THE INITIATIVE

ATOP is an initiative for a more inclusive and sustainable built environment. It is a digital and interactive platform, informing, assisting and facilitating citizen-driven development of new homes on existing rooftops, while incentivizing energy retrofitting of the existing city fabric.

Rotterdam challenges

More affordable homes

The population of the Netherlands is growing, and this is particularly true in the regions of Amsterdam, Rotterdam and The Hague. Population growth combined with a slow construction rate of new homes leads the Netherlands facing an enormous housing shortage, especially in its urban and metropolitan areas. There is currently an estimated shortage of 315.000 homes in the Netherlands, and counting. A city larger than Rotterdam, Utrecht and Groningen combined must be built in order to no longer have a housing deficiency by 2022. The Dutch housing market is under great pressure, and it is not showing any sign of ease. By 2030, it is estimated that more than 1 million homes are needed. So, we need to build more homes and look beyond the current and traditional means of production and building.

The College of the municipality Rotterdam is taking actions to resolve its homes deficit and is planning an additional 33.100 homes in the city by 2030. Additionally to the transformation of office spaces into residential units, the College aims to accelerate the growth of the Rotterdam housing stock by starting the construction of 18,000 new homes between 2019 and 2022, or 4.500 homes each year between 2019 and 2022. While being conservative targets facing the enormity of the housing shortage, the latest indicators show that none of these targets are being reached, meaning the solutions proposed will fall short for Rotterdam's future.

Carbon neutrality by 2050

Global warming is the most pressing issue of our times. In response, Europe pledged to have a climate-neutral economy by 2050. Building and construction fields are good places to look at to be positively proactive for a more sustainable future. Buildings in urban areas are responsible for approximately 40% of energy consumption and 36% of CO2 emissions in the EU. Buildings are outdated and old, as 35% of the EU's buildings are over 50-years-old and 75% of the building stock is considered energy inefficient. On the other hand, only 1% of the building stock is renovated each year. Therefore, the building sector has high potential to implement measures to reduce energy consumption.

Translating to national policies, the Dutch Climate Agreement aims to reduce its greenhouse gas emissions by 49% before 2030 and 95% before 2050, compared to 1990. Enhancing the energy efficiency of homes is a necessary step to reach these targets, as the Dutch housing stock is aging and particularly inefficient. Homes need to

be retrofitted, at scale. Nationwide, it means that 1,5 million homes should become more sustainable and net-positive before 2030.

Today, the municipality of Rotterdam counts 315,565 homes. Based on the current rate of demolition, we can assume that 90% of currently existing homes will continue to stand in 2050, which adds to 284,000 homes that have to be brought from average energy label D to far into the green range of C or higher. **Every week in Rotterdam, we need to energy retrofit 188 homes and keep up the pace for nearly 30 years.** Therefore, the sustainability challenge is tremendous. And for those who think that new construction will solve that problem: only at a sixfold increase in the current construction capacity, the Netherlands can realize sufficient new construction with sufficient energy efficiency. Such a size has never been achieved in the entire Dutch building history and would generate a great deal of demolition waste which would considerably diminish the environmental benefits.

Wide inclusive participation

We cannot talk about home renovation without looking at their models of ownership. The housing stock is split between many different types of owners, with different financial capacities and different incentives for them to act: Public institutions, housing associations, private and institutional investors, multiple owner-occupiers (VvE), single owner-occupiers. While there are initiatives running in the Netherlands targeting centralized owners with large number of homes like housing associations, owners of small amount homes have been often overlooked. The financial resources of a private individual are limited as well as their access to information in a complex layered landscape of professional jargons. Usually, small private investors and owner-occupiers do not have room for investment of several tens of thousands of euros. The current resources for financing (including sustainability loans, object subsidies, government subsidies, Stimuleringsfonds Volkshuisvesting Nederland 2017) are not sufficient for large-scale adjustments to private homes.

Moreover, the considerations of a private individual are much broader. The choice for investments by a manager is between different complexes, for the private individual it concerns the choice between investing in the home, in a new car or in a holiday – he can only spend the money once... A special group within owner-occupiers concerns the people who own a home through a Homeowners Association (VvE). It is the individual owner of part of the complex, but it cannot decide independently about what happens to the whole building. For these groups, the investments in their homes have different meaning, since they also value it very differently.

The question is then how we can make sure Rotterdammers can find places they can afford and become or stay part of the many diverse communities that compose the city, while simultaneously engaging in the making of a more sustainable city starting at their own front door.

Roofscape opportunities

An aerial photograph of a city area, likely Amsterdam, showing a dense urban layout. The map is overlaid with a dark grey color that highlights the flat roofs of buildings. The highlighted areas are scattered throughout the city, with a higher concentration in the central and eastern parts. The overall shape of the highlighted area follows the general layout of the city, including the canal network and surrounding urban sprawl.

18,5 km² of flat roofs

■ Flat roof



To be able to extend and enhance the city to more sustainable and inclusive futures, you want to, quite literally, build upon Rotterdam's rich built environment and its institutional capabilities. Once you walk around and look up, Rotterdam has some very particular characteristics. One of which is that, due to especially the after war building era, our city has a very large area of flat roofs. The city counts more than 18 km² of flat roofs.

That's the equivalent of more than 2,500 football pitches: a serious sized surface to consider as a second layer of urban development! We propose to use this unique characteristic to increase the number of sustainable homes in Rotterdam which can in turn function as a financing mechanism for building maintenance or energy retrofitting of the existing city fabric.

Sustainable homes over the city

The idea of building homes on top of existing buildings is being explored and developed in many European cities : *La Casa por el Trejado* in Barcelona, *Project Attic Adapt 2050* in Vienna, or *Permit-free Upward Home Extension Policy* in London. The concept is being developed on policy and experimentation level, focusing mostly on resorbing housing shortage in dense urban areas with high market pressure.

In Rotterdam, *Dakdorpen* proposed in the recent years to use the flat roofscape of the city to place tiny houses that could finance the installation of a green roof onto existing buildings. This is an exciting idea which opens up the conversation about the unused roofscape and infill it with homes. Built on that idea, our focus is to deliver homes for many different groups, not only youngsters, but also elderlies and families, in a scalable manner. Mind you – we do not envision a temporary intervention such as *Dakdorpen*, but a durable and sustainable vertical extension of the city for its future with all its diversity.

The next generation of housing development in cities ought to be sustainable and affordable. The particularity of using existing buildings as area development avoids the purchase of the land where the homes would sit. Doing this through roofscape development, would mean a transfer of use of air rights, the ability to use the roof, which budget can then be absorbed into energetically retrofitting the existing building host. Additionally, constructing over existing buildings requires light weight construction systems to avoid the structural reinforcement of the existing structure, which would make the intervention much less able to finance energy retrofitting, while pushing out the community out of their own building during the construction of the over-build. Timber-based construction is then the perfect synthesis of light-weight, cost-efficient and sustainable approach to extend vertically the city.



Feasible opportunities

Existing buildings are not all the same – different typologies have different potential. This initiative focuses on extending buildings which already include residential units, meaning that they also already fulfill a certain range of legal requirements as well as having the advantage on expending the already in place diverse communities of Rotterdam.

However, vertically extending buildings implies adding an additional weight onto the existing structure of the host building. Some parameters need to be considered to evaluate whether the studied building can host additional homes; how many of them it could support; and an approximate construction cost.

These parameters influence the financial and technical feasibility of a vertical extension. Superworld ran an analysis to identify the most promising buildings to host more homes. The study gives an idea of the potential that this particular solution offers for Rotterdam.

- 1 ROOF TYPE
- 2 BUILDING AGE
- 3 BUILDING HEIGHT
- 4 ENERGY EFFICIENCY
- 5 ZONING RESTRICTIONS
- 6 POSSIBLE EXTENSIONS

1 ROOF TYPE

FLAT ROOFSCAPE

■ Flatroof

Zoom on city center for readability





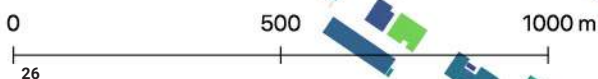
Rotterdam is a city of flat roofs. That being said, not all flat roofs are suitable to be build upon. Some are in front of already existing apartments, some are an extended plinth, some too close to existing buildings. We focus on the roofs of residential buildings which already include more than two living units, implying they include a central access and stair cases. We only count the roof surfaces which are potentially interesting to integrate homes.

2 BUILDING AGE

BUILDING AGE



Zoom on city center for readability

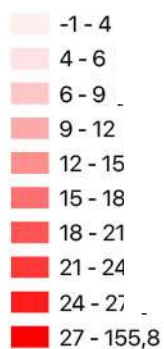




The date of construction of a building is a good indicator to assess its structural system. Buildings which have been build too recent have their structures too much optimized to have more weight added, buildings which have been build too long ago have weaker structures. Based on structural analysis run in collaboration with a civil engineer, buildings built in the Netherlands between 1900 and 1990 can be considered to host a vertical extension.

3 BUILDING HEIGHT

BUILDING HEIGHT



Zoom on city center for readability

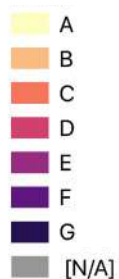




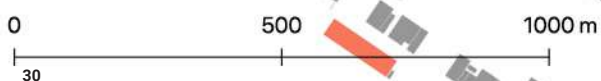
To estimate how much of additional weight an existing building can host, we need to know how tall the building is. The taller the building, the more the building can support extra-weight. Comparitavily, if you add 100 kg on top of a small buildings, it will be a bigger percentage of the existing weight of the structure weight, than if you add it on top of a big building that is more heavy. Structural analysis ran leads to the following potential vertical extension : one more floor can be added on a building height between 9-19m, two more floors between 19-25m, and three more floors for buildings higher than 25m.

4 ENERGY EFFICIENCY

ENERGY LABEL
BUILDING WORST CASE



Zoom on city center for readability





Using the vertical extension of buildings as a finance mechanism to energy retrofit requires knowledge on the energy performances of the existing buildings. We identify the least energy efficient homes in each building and take this analytical map as a localization of priority and relevance of action. This informs the overall financial viability of the intervention as a double benefits between new homes in the city and a more sustainable existing built environment; it identifies the cases where the two major transitions – the housing crisis and the energy transition – can be addressed at the same time.

5 ZONING RESTRICTIONS

REMAINING BUILDING HEIGHT
IN BESTEMMINGSPAN



BESTEMMINGPLAN

ProtectedSite

Zoom on city center for readability

0 500 1000 m

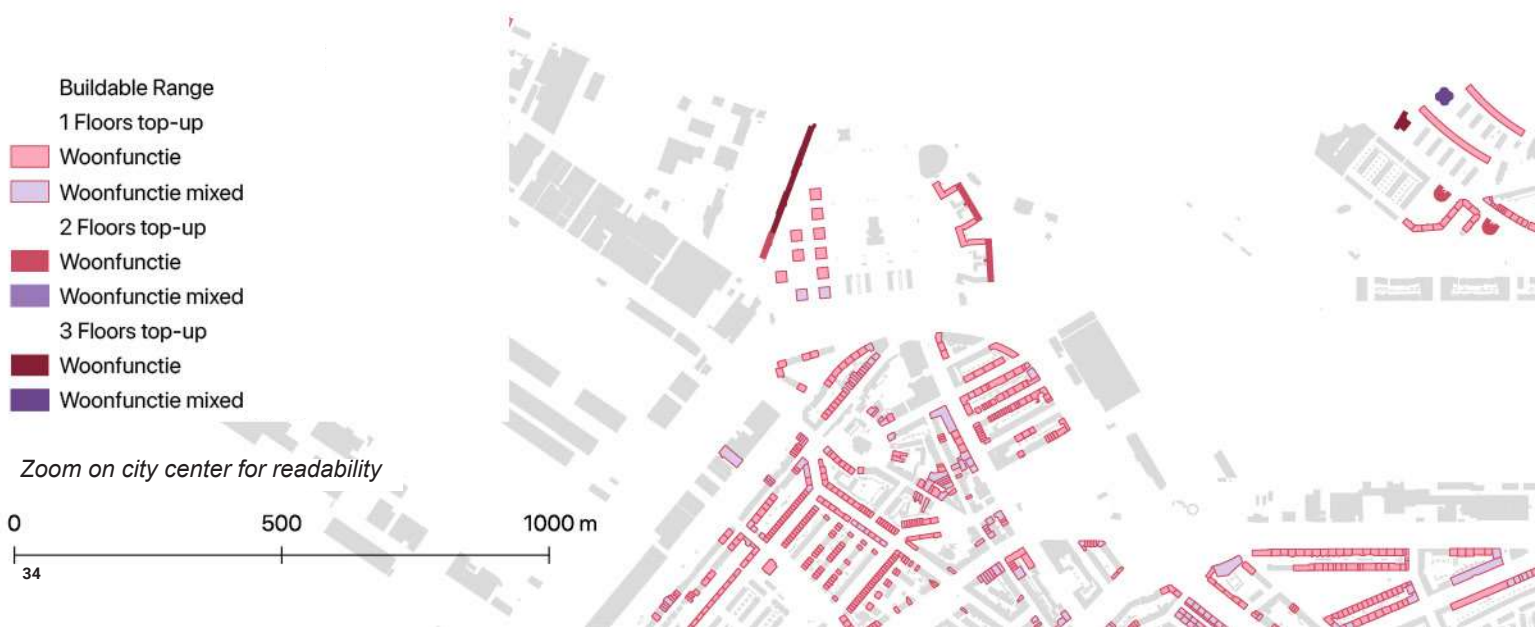


The bestemmingsplan particular to each neighborhood of the city dictates the height limit of each building. Each time an intervention deviates from the requirements, there is the need to ask for a derogation. In the case of few meters of deviation, this will be likely accepted but it will require some time to be processed and an additional fee to be included in the overall financial viability.

6 POSSIBLE EXTENSIONS



BUILDABLE FLOORS OVER THE CITY





The successive layering of information gathered allows to build a comprehensive map of where it is possible to vertically extend building by adding more homes on a technical level. Moreover, this allows to understand what are the costs related to these extensions and benefits that could be absorbed into energy retrofitting measures of existing buildings of Rotterdam.

Rotterdam upper city

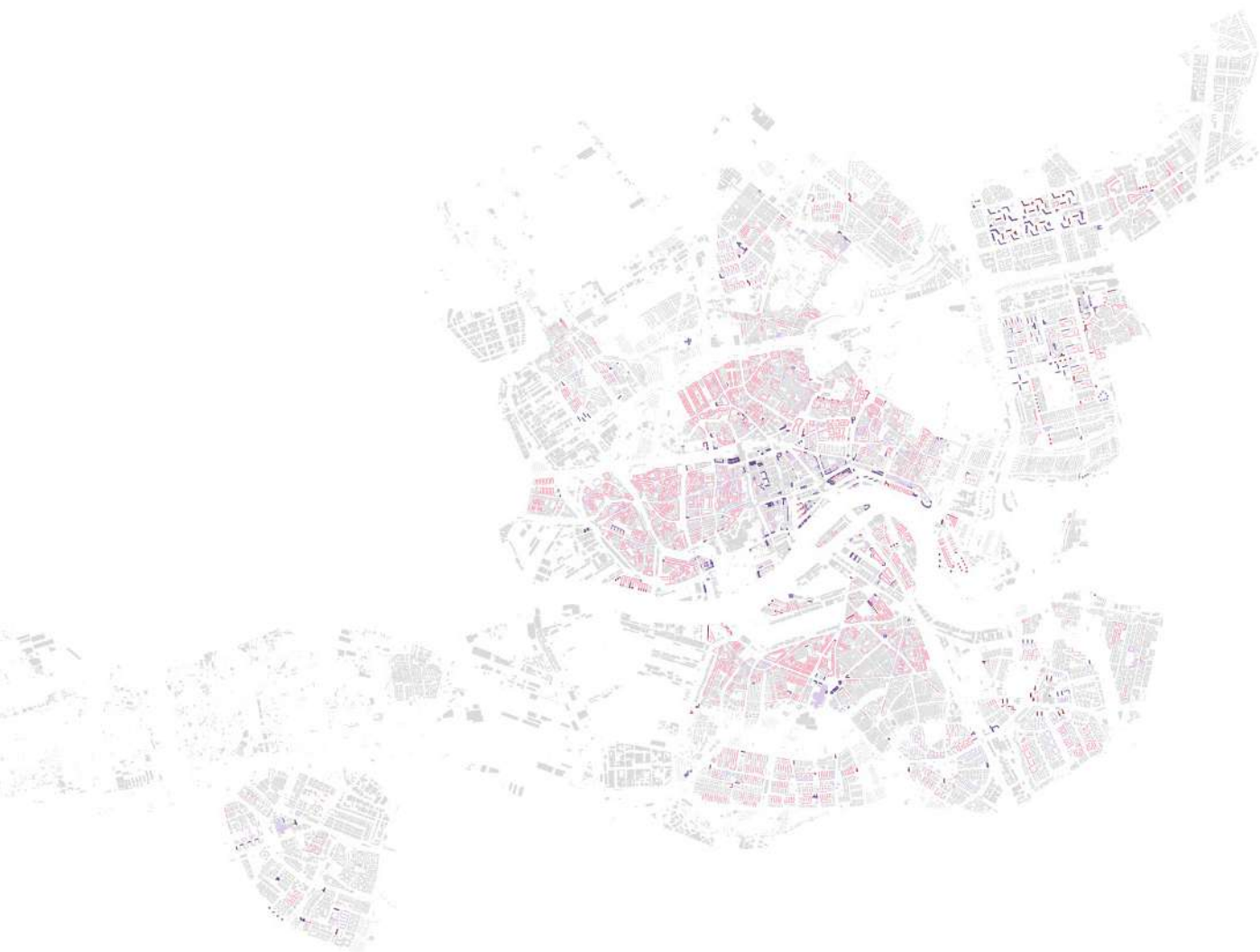


3,32 km²* of flat roofs
14.737 individual roofs
14.737 potential buildings to retrofit

4,4 km² of living area
38.492 new homes**

** Area of flat roofs of partly or fully residential buildings that are within the height and age constraints to bear vertical extensions*

*** With the assumption of an efficiency of 70% of efficiency of use of rooftop into living areas and taking an average of 80 m² per home.*



Taking conservative and achievable goals, ATOP aims to incentivize the start of construction of 1.000 new homes by 2030, which is less than 2,6% of the 38.492 possible out of our analysis. This represents an amount of 400 buildings to be extended – roughly the same amount of buildings sitting on Noordereiland. This development will contribute to the overall target that the municipality has set of 33.100 new

homes by 2030. Moreover, this will be the opportunity to energy retrofit some of these host buildings thanks to the capital inflow. As a conservative approach, we aim to trigger the energy retrofitting of at least 50% of the buildings that would be extended, which represents 200 energy retrofitting of buildings.

Rotterdam can expand vertically over time, but who do we include in the process and how do we make an inclusive development of the city

Our analysis shows that there is a huge opportunity for building upon the city and providing more sustainable homes within the city fabric. This means developing in the center of existing communities, building on the existing infrastructures that we collectively invested in. All these potential roofs belong to a wide diversity of people and organizations. The ownership modes of existing buildings reflect all the different type of stakeholders which need to be involved, inspired and invited to act.

Rotterdam has the unique potential to accommodate a lot more homes without displacing living communities and tearing the city down. Our very conservative and highly constraining base parameters of this study are that host buildings should be partially or fully residential, buildings with a central access, including extensions which require no reinforcement of existing structures, are ensuring the most economically viable interventions. However, Rotterdam's potential is much bigger! Think of homes on top of offices, parking garages, shopping malls, exoskeleton structures.

Superworld is already talking to the municipality of Rotterdam as well as housing associations. The centrality of governance, scale of owned stock and technical knowledge make housing associations ideal partners to start from and scale up.

**But what about all the other Rotterdamers?
What about the single owners and VvE's?
How can we approach them and speak in a common language? How can we build the necessary capabilities to include all citizens in the shapping of their environment and benefit from alternative capital sources to reduce their energy bill?**

Citizens oriented

Include citizens and VvE's in the making of a more sustainable Rotterdam for a new future-proof economy

Not everyone has equal access to information. Professionals in the built environment have access to a range of tools and an information network which allows them to comprehend opportunities of intervention in the built environment. For any other people, it is very complex to access the necessary information and penetrate the professional jargon.

ATOP is an initiative oriented around democratizing the necessary information around the opportunities of vertical extension of buildings for new homes and how this could be a financing opportunity to make existing and future homes more sustainable. ATOP aims to be fully inclusive as all of us are invited to get inspired and be part of the solution. We can all become the instigator of change and so ATOP is meant for all citizens of Rotterdam. You can be the convincing actor to share and inspire your landlord, your co-owners, your neighbours. People owning and living in one of the 110.000 homes of the city. People renting one of the nearly 60.000 rental homes of the city, and the people these homes belong to.

Explore additional and alternative financing schemes to energy retrofitting and extending the life of the already built environment

Rotterdam counts more than 13.000 VvE's which is as many VvE's managers that should be addressed in informing and get acquainted with the potential of the roof over their heads. It's important to note that, while VvE's are required to have a maintenance fund, more than a quarter of them no maintenance fund or have only been setting up a maintenance fund for less than a year, and half of Rotterdam's VvE's are facing insufficient fund for its basic to maintenance.

It becomes evident to reach to the owner associations and propose them complementary strategies that VVE-010 and Duurzaam-010 are offering to them in terms of guidance and potential funding and loan schemes.

ATOP also give renters and other citizens the opportunities to envision improvements of their homes, to convince their own VvE's that alternative are possible to retrofit their buildings and to address this other transition that is both facing and scaring them: the energy transition.

Innovative platform

ATOP is an initiative that is a web-based interactive platform where you are able to understand the specifics of the potentialities of extending your building vertically, and how could it finance the energy retrofitting of your building. Since we aim for a diverse audience which is predominantly non expert of the built environment, the language and interface should be simple to be understood by all. A one-stop shop for *optoppen* covering all the necessary aspects.

The built environment and the climate belong to all of us, however, it often seemt to be only in the hands of the professionals, cutting away a lot of people from the conversation. These very same people that have the potential and the power to act and benefit from the same opportunities. This is where the innovative aspect of this initiative is found. Tackling the housing crisis and the climate crisis by giving the right tools in the hands of all.

The innovation of ATOP lies in the finance mechanism as well as its interaction model. On the one hand, it provides comprehensive

alternative financing mechanism to make the buildings of Rotterdam more sustainable. On the other hand, it aims to create of more impact by reaching to all citizens of Rotterdam in a truly inclusive process. It provides the capabilities to people to implement more homes in the city while reducing its environmental impact. A win-win model which is free-for-all and benefits the city and its urban development as a whole.

As an individual homeowner, it will give you the right information to add more space to your home and see alternative models to finance the energy retrofitting of your building.

As a VvE member, it will give you the right arguments and tools to talk to your fellow members and neighbors to mobilize the group around energy and maintenance financing.

As a home renter, it will give you the right arguments and tools to talk to your landlord and show that your leaky building could be beneficiating energy and maintenance financing sources.

- 1 FINANCIAL SIMULATION
- 2 RETROFITTING POTENTIAL
- 3 PRACTICAL GUIDE
- 4 DESIGN GUIDELINES
- 5 INSPIRING STORIES
- 6 CONCEPT EXPLANATION

3 MOCK- UP

The initiative is using web-based interactive tools as a one-stop shop for citizens and VvE's linking the use of their roof as a financing mechanism for building maintenance and energy retrofitting. It expands the scope of stakeholders and empower them to be instigators of a more sustainable future.



[Your roof](#) [Your story](#) [Guide](#) [About](#)

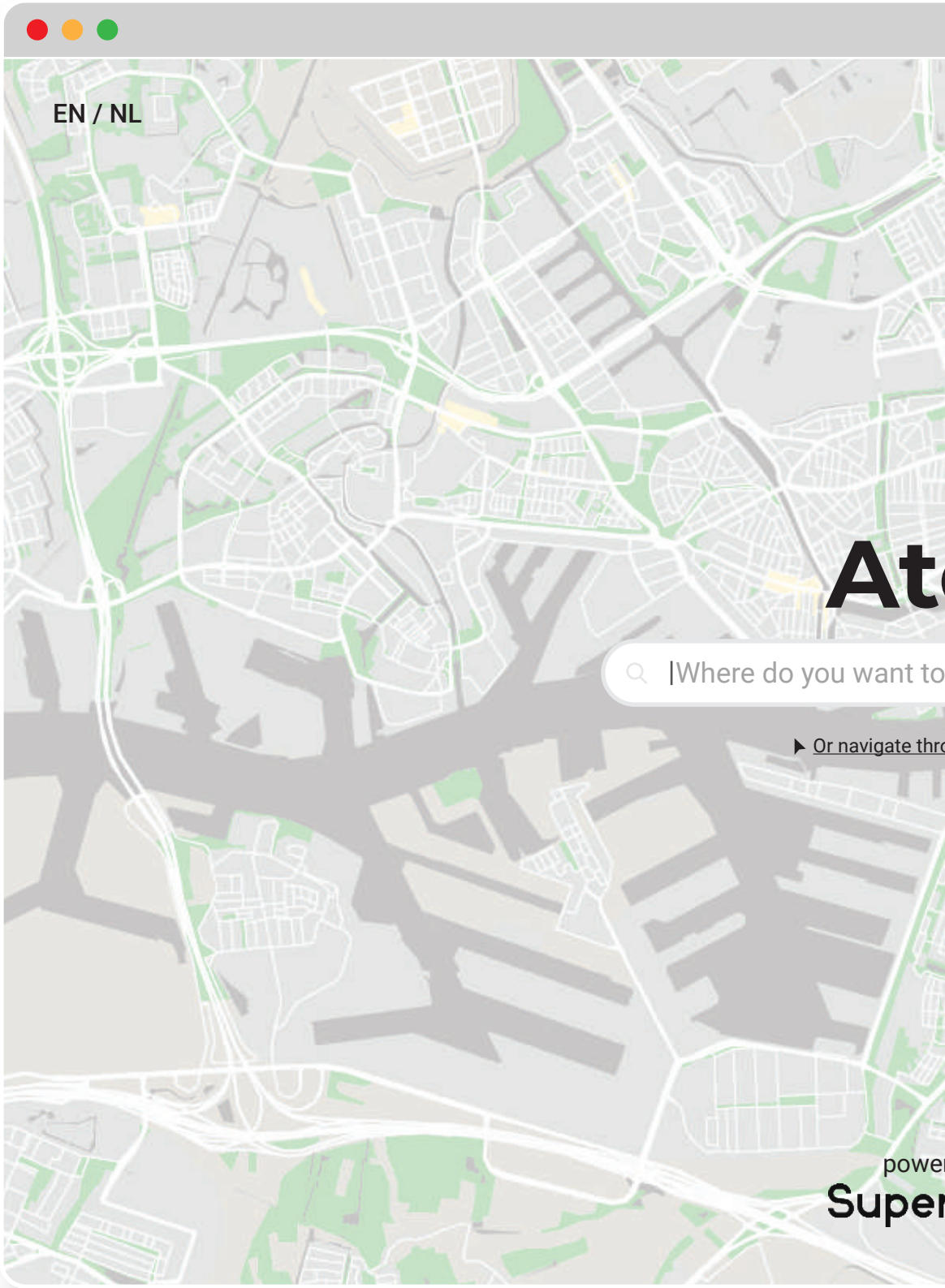
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re-proof upper city



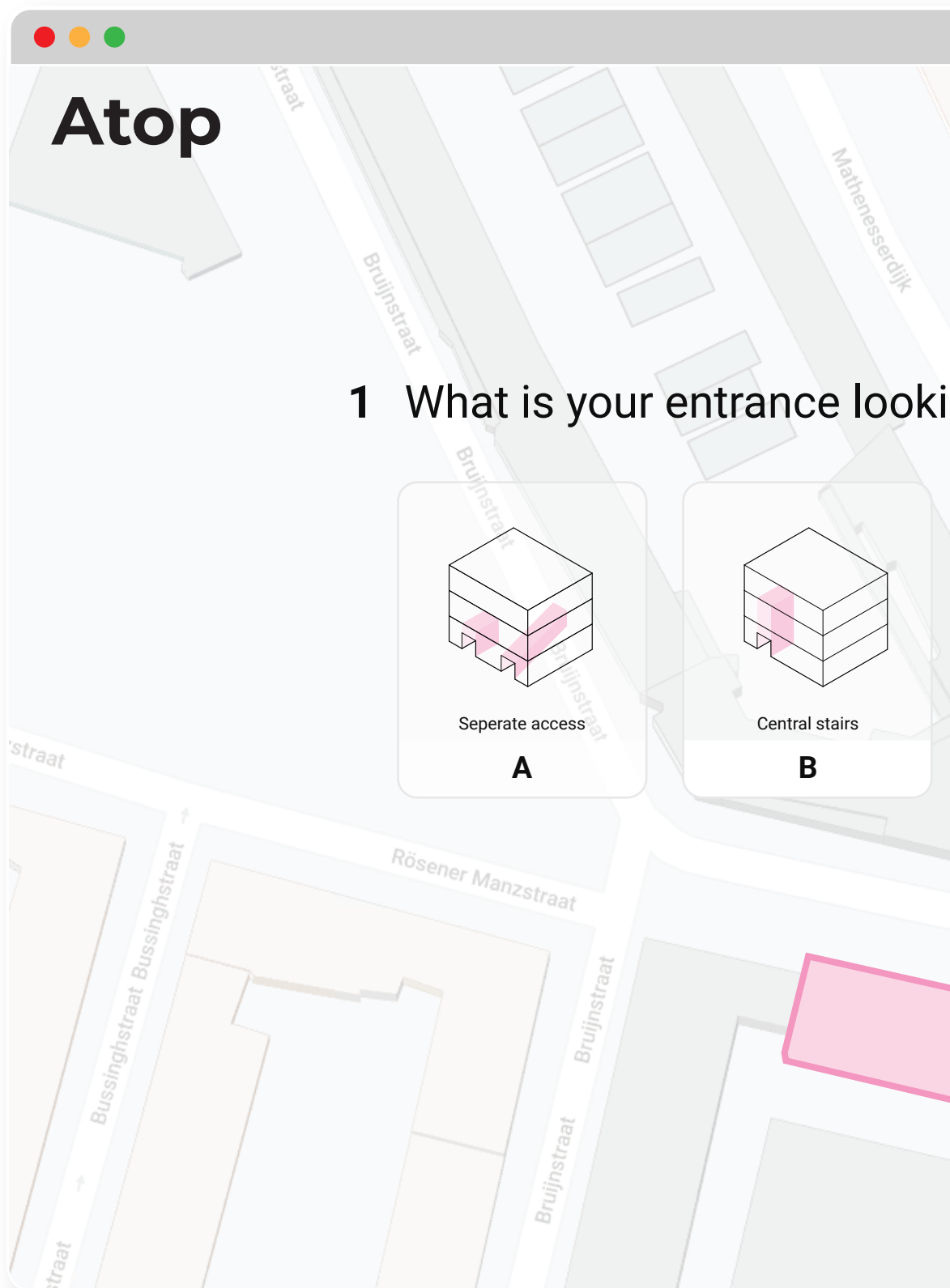
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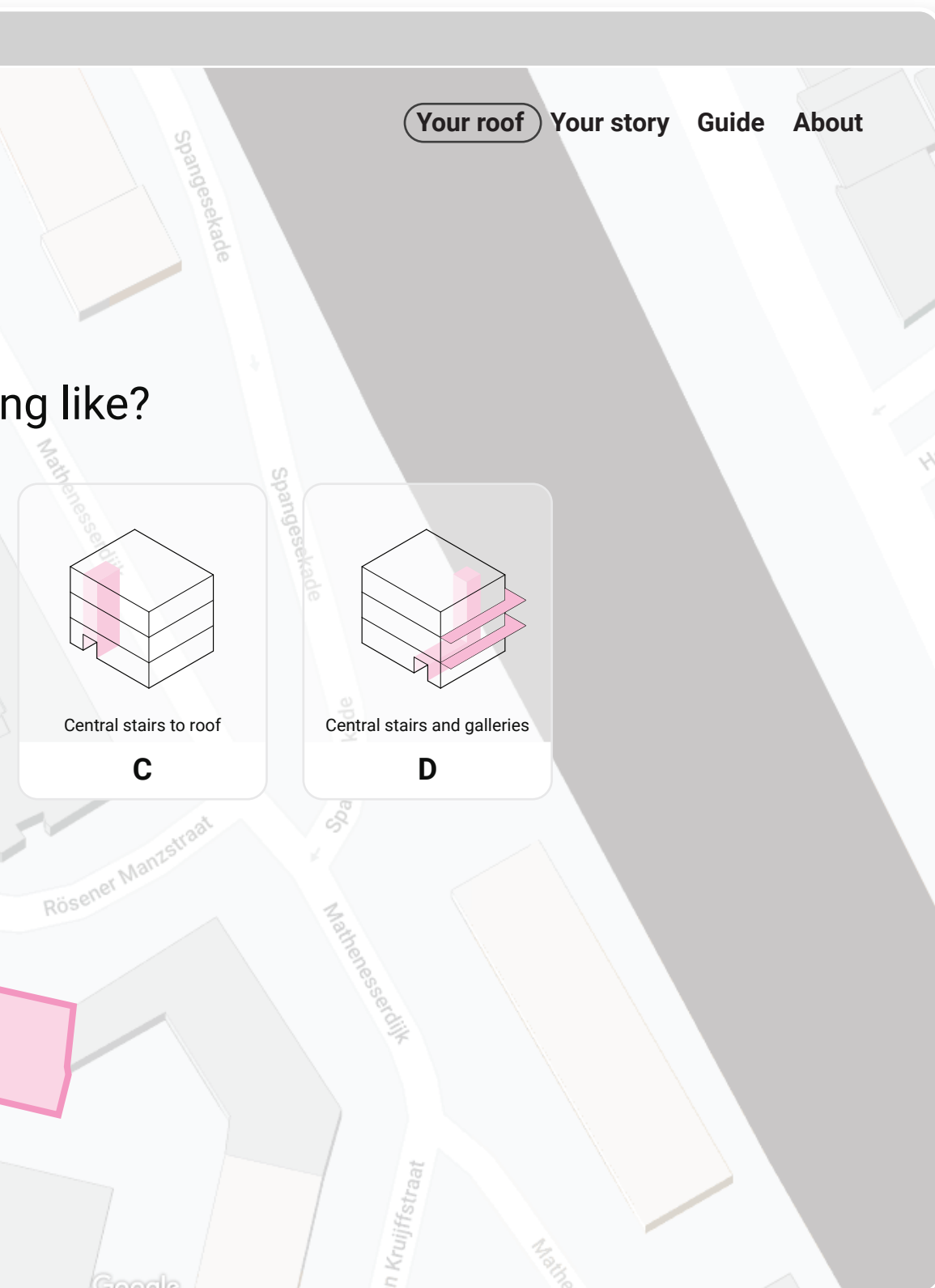
Atop is the go-to for anyone looking at the potential of their roof. The platform aims to be inclusive and will be available both in Dutch and English.






The user can type-in his/her own adress, or navigate through Rotterdam, and be directed to the building they want to assess the potential of vertical extension.








In the back-end, an enriched geo-dataset is informing the feasibility and cost estimation. To be more precise and specific, some basic questions are asked to the user, which are not yet available as datasets.


Atop


 number of floors


 front terrace

 new homes

 new living area

 number of homes

 home area

 energy label

368 m²

4 homes

92 m²/home

B

building costs

service fees

retrofit

home sale

subsidies


- 552.600 €


- 155.800 €

- 223.600 €

+ 920.000 €

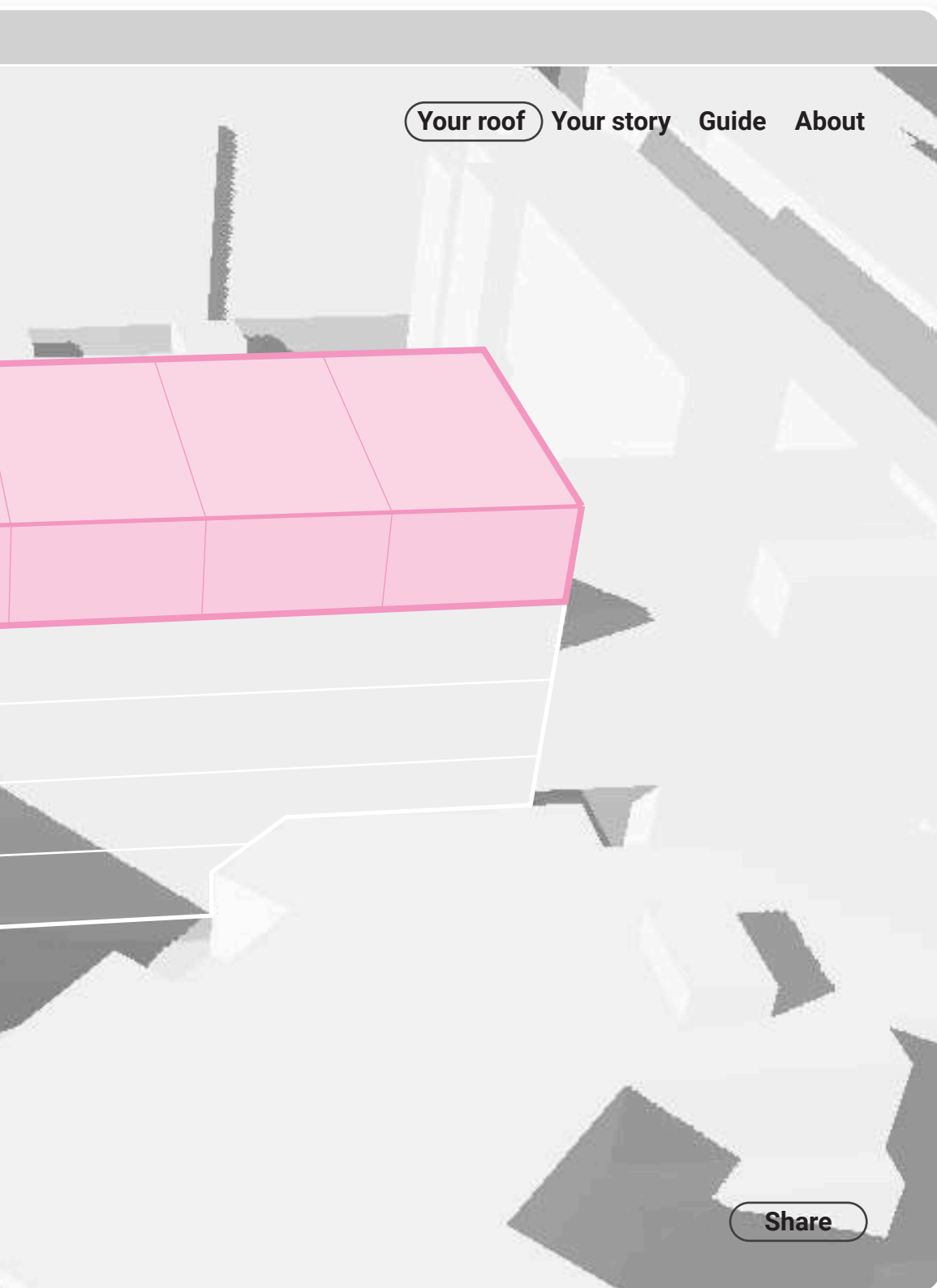
+ 12.100 €

 energy savings

 sustainable impact

850 €/year

15h of driving







An interactive interface allow users to playfully interact with their own roof and simulate the costs and opportunities to for retrofitting. The deisred scheme can be directly shared to its co-owners or landlord, or in the form of a report.



Your roof **Your story** Guide About

Bird nest

More homes for
a new shared roof

 new living area	289 m²
 number of homes	3 homes
 energy savings	450 €/year
 sustainable impact	6h of driving

address	Governestraat, 75
architect	Ney architects
year	2022

[Read more ...](#)

stories

Aside from the interactions with your own roof, stories of on-going and realised interventions are shared for everyone to imagine and project the future of their own roof.

Atop



Practical guide

How to use your room in your house and be more efficient.

You got to see what you can do, we are on the same page.

- 1 share the news with your landlord.**
to do this, we made it easy for you to produce a report that you can show to your landlord.
- 2 agree on what you want.**
once you see that the architect is on your side (many you can see on the internet) you through the process.
- 3 let's make sure it's not too expensive.**
the architect you will find is not too expensive. Atop is a good choice. Atop is perfect, not even us.
- 4 imagine the future.**
before getting a permit, we can help you to make even better and practical.

ide

of to retrofit your
sustainable

ur roof can do for you? Great that
ge! Now, what's the next steps ...

with your co-owners

e easy for you! You can share your experiment and
you can handover to your neighbors or your

ou collectively want and move on

e idea is good to be explored, contact an architect
ver [here](#)) or [get in touch with us](#) so we can guide
ess.

t's all good

have chosen will help you to see if nothing is
data-driven and expert in what you saw but no one
s!

re of your building

hit, let's not go too fast, will we. Your architect will
everything perfect from looks and feels, to durability

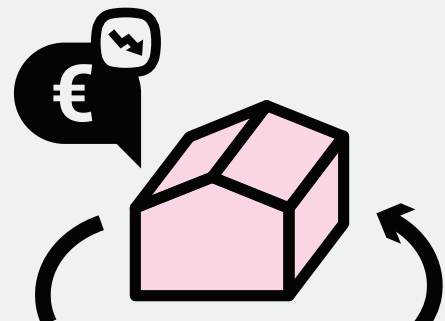
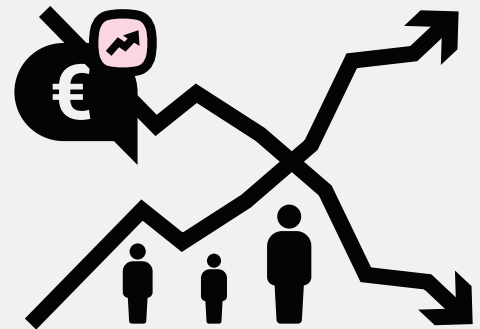
Once the users are convinced of the potential of their roof, by simulations and examples, they need to know the specific steps to be taken. We offer a practical guide on what to do next and what to keep in mind.

Atop



About the co

What's the idea being
a look on its social v



Concept

ing Atop? Let's take
values...

A time of crisis

In our cities, population is growing while affordability of homes keeps diminishing. In the same time, we are having a hard time to make the existing homes more sustainable as it requires enormous investments coming from many different kinds of pockets. We are at the crossroad of housing crisis and climate crisis, and it seemed to us that both could be tackled in the same time.

Developing roofs to retrofit

The Netherlands has a pretty incredible potential up there above the buildings. What if we would develop homes on top

Finally, Atop offers more in-depth information of the reasons that lead to create this platform as well as what does it respond to.

4 PLAN OF ACTION

To implement the initiative, it requires to have an extensive knoweldge on the back-end content, constaining the financial and technical feasibility of vertical extension, as well as a crowding-in approach of citizens through a digital interface.

Concretizing the vision

1 Synthesis of information

In order to achieve the goals of the initiative, we need to provide the tools for citizens to grasp the potential of their rooftop; how this could integrate new homes; while simultaneously covering the cost of energy retrofitting their building. Through interviews with researchers, professionals in the built environment and homeowners, we enlisted a series of preliminary indicators necessary to be conveyed.

While aspects are already covered internally, additional information will be gathered through a series of conversations to be held during the Rotterdam Architecture Month in June 2021. The series of conversations is serving as a base to refine the knowledge with professionals from the built environment and the municipality of Rotterdam, and VvE's representatives to form a comprehensive financial, technical and legal modeling of vertical extension and energy retrofit measures.

We intend to follow-up these conversations with consultations with individual experts thus building on a network of experts that can function as an advisory board for this initiative.

2 Prototyping the experience

Parallel to the gathering and synthesis of information, the web-platform will be prototyped. The focus will be a user-friendly experience that conveys the right information, to the right people, in the right way. This will be done by using simple language and a intuitive interface, linking to municipal or private companies' websites. We will produce mock-ups of the platform and share them to different stakeholders in order to make sure of the relevance of the decisions taken along the way.

As an inspiration, we will consult several (international) examples of similar accessible tools for citizens and urban development.

3 Pilot with citizens and VvE's

To learn how citizens and VvE's experience ATOP, we will organize a pilot. We will identify interested parties that both are already interested and invested in the process of vertical extension and energy retrofitting, as well as not yet involved stakeholders. The goal is to identify what could be the crucial information for people to be convinced and take actions and test the readability and use of the platform. The demo and the feedback session will be the test bed for the next steps.

4 Deployment of the tool

After the pilot, the mock-up of the platform will be improved according to the input from the different stakeholders and the lessons learned. The platform will then be finalized and tested to ensure the good quality of the experience and avoid glitches. This will be the birth of www.atop.city as catalyzer of inclusive participation of all Rotterdammer's in the making of their environment.

5 Running platform

Once the platform launches, it will be continuously maintained and function as the link between citizens and the realization of building extension while retrofitting. Over time, additional features can be added to the platform, enriching the support of decision making. ATOP needs to be responsive to the challenges coming along time and changes that Rotterdam will encounter. In order to do so, we need to have a tight network of different (professional and municipal) stakeholders in the city.

Continuous communication and promotion

To make sure the initiative is useful, we need to reach out to the people that will benefit from it and therefore communicate to them with the right medium. We plan to create posts on different social media channels and reach out to neighbourhood networks, associations of VvE's, like VVE-010, energy retrofitting actors and traditional media platform, like RTV Rijnmond and Open Rotterdam. This combines passive and active promotion to the right parties that are able to pass along the information of the platform through an already trusted intermediary.

Team

Superworld is an international practice founded in 2017 in Rotterdam and operating at the interfaces of architecture, technology and strategic design. Our work focuses on system thinking as a framework for societal transition and social change, and is guided by discovery, design and implementation. Our approach is to explore and challenge the underlying operating systems governing the built environment and prototype the physical embodiment of alternative sustainable futures.

Thomas Krall

Architect & Co-founder of Superworld

Thomas co-founded Superworld, after working with BIG - Bjarke Ingels Group in Copenhagen. His focus areas are urbanism, conceptual design and sustainable technologies. Experienced in the management of medium to large-scale projects, he is aiming to integrate social, cultural and environmental parameters into innovative and high-quality architectural and urban design solutions.

Thomas will be providing architectural design and project management inputs for ATOP as well as building construction parameters of building extensions.

Maxime Cunin

Engineer & Co-founder of Superworld

Maxime is a co-founder of Superworld to explore the economic, social and technological systems which govern the built environment. Previously, he developed his expertise as architect and engineer at MVRDV and as a researcher at MIT in Boston. He thrives on complexity and aims to contribute designing solutions not only physical but also processes and protocols.

Maxime will be crafting ATOP web platform, the geo-spatial analysis and the engineering factors groundwork as well as the system strategic design.

Yvonne Rijpers

Sociologist, urban planner, project manager

Yvonne is a sociologist, metropolitan researcher and project manager in the build environment. As project leader of Vereniging Deltametropolis, she focuses on the big transitions we face in the Netherlands, especially the energy transition and the spatial impact of this. She also works as an independent project manager for big cultural projects and has been involved in various project for mapping, creative clustering and Publicly Owned Private Spaces. In addition, she has been writing about urban development in various medias.

Yvonne will be providing ATOP with her knowledge of social and cultural activities to reach to citizens and VvE's in a common language and simultaneously translate the bottom-up input into input for policy and decision makers in order to influence the ongoing debate on urban development.

Joep Klabbers

Architect & Founder of Dakendagen

Joep is the initiator of the successful Rotterdamse Dakendagen festival, of which he was the content director until the end of 2017. He previously organized the roof route Poems From A Rooftop together with ArchiGuides, AIR and AFFR and produced the roof route for Werelds Oude Westen. With his bureau of zoarchitects he focuses on the challenges of the existing city.

Joep will be the connection between ATOP and the professional stakeholders of Rotterdam rooftop scene, helping to contextualize the proposal and local expertise.

A series of individuals are being reach to in order to make the groundwork of ATOP enriched and complete, this includes experts and consultant that are being interviewed during the Rotterdam Architecture Month spanning across different fields:

BUILDING ECONOMIST

STRUCTURAL ENGINEER

PUBLIC SERVANT

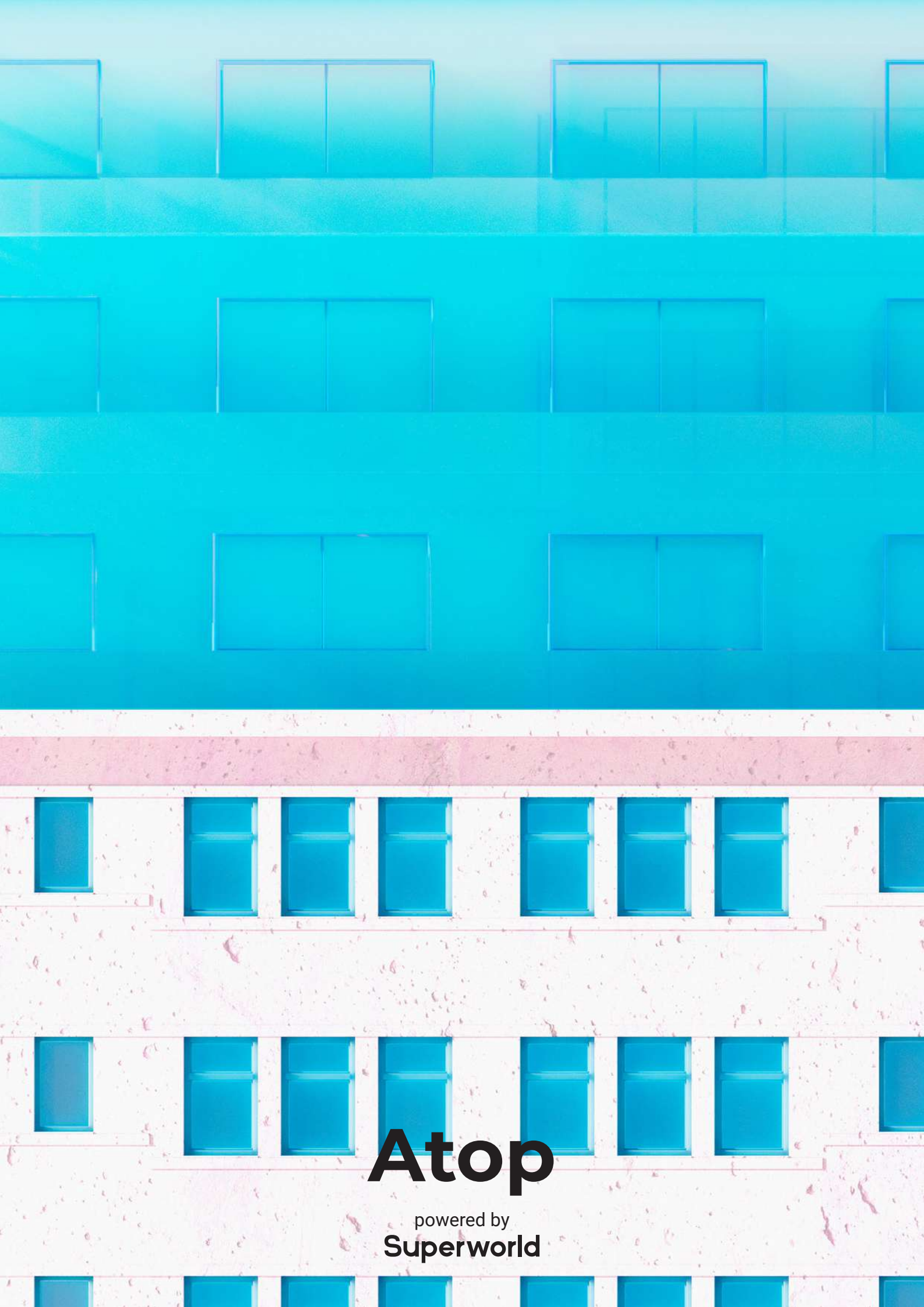
LAND LEGAL EXPERT

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