

Trends note #14

Living Tomorrow, considerations & prospects

October 2023



THE ESSENTIALS

With a host of uncertainties ahead – climate change, global pandemic, societal fragmentation, widespread inflation, geopolitical tensions, and the resurgence of war in Europe – housing is, more than ever, at the forefront of people's concerns. Housing must face a variety of challenges on all fronts: economic, environmental, and societal.

On the economic side, factors such as widespread inflation, rising interest rates, budgetary and fiscal reforms, scarcity of land, reduction in subsidies, and increasing construction costs, amongst others, all affect people's capacity to find suitable housing, or to find any housing at all. Fondation Abbé Pierre reports that, in Europe, in 2022, 19.2 million people were living in substandard housing and at least 895,000 people were homeless. While the right to housing is recognised as a fundamental and universal right, over one billion people worldwide are not adequately housed (UN-Habitat).

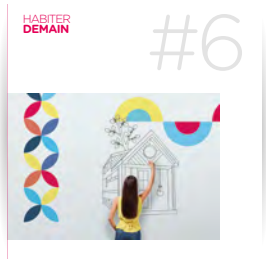
To make matters worse, the climate crisis is compelling us to reduce our carbon footprint, halt urban sprawl, and preserve resources and natural spaces. The task for those working in real estate, construction, and urban planning sectors is to transform models of city and territory development by shifting the focus onto the renovation, rehabilitation, or transformation of assets. Indeed, the European Commission highlights the renovation of existing real estate as a key action area to achieve greenhouse gas reduction targets in the building sector and combat the issue of energy poverty. For new builds, this involves putting different methods into play by using bio-based or geo-sourced materials and promoting circular economy, as well as boosting off-site construction, modular construction, and industrialisation, while preserving the quality of use.

Lastly, the housing sector must respond to changes in society, lifestyles, and usage. Our habits have changed and there are many factors influencing the way we live: an upheaval in the classic family structure, an aging population, impacts of the global pandemic, the boom in remote working, rising ecological awareness, aspirations to improve our quality of life and living environment, and the need for social connection, amongst others. It all amounts to a paradigm shift in our society that strikes the housing sector at its core, challenging its ability to adapt to new needs and uses in a context of uncertainty and the unfolding of various crises. **The aim of this "Habiter Demain" ("Living Tomorrow") trends report is to spark inspiration, sharing the considerations and new trends that have arisen, to stimulate action.** Given the complexity of the challenges we are facing, the transitions broadly related to new ways of living require projection, anticipation, and the use of innovative cooperation methods (public-private). To find adequate solutions, we must collectively put our intelligence to work, finding ways to achieve accessible housing for all and a better quality of life while respecting the limits set by the planet's finite resources.

Enjoy reading the newsletter!



This document is the continuation of Trends report #6 entitled "Living tomorrow"



Important considerations



As our societies face increasingly numerous and complex economic, environmental, and societal challenges, they need to adapt and even undergo profound transformations if they are to demonstrate greater resilience. As people's sense of vulnerability grows, particularly in view of climate change risks and the energy crisis (AXA, 2022), housing stands more than ever on the front line of our concerns. It has now become crucial for us to reinvent our forms and models of housing, to provide appropriate responses to considerations of safety and health, and the general well-being of populations.

Increasingly difficult access to housing

The housing crisis is a reality now affecting many countries. Since 2005, housing prices have been on the rise.

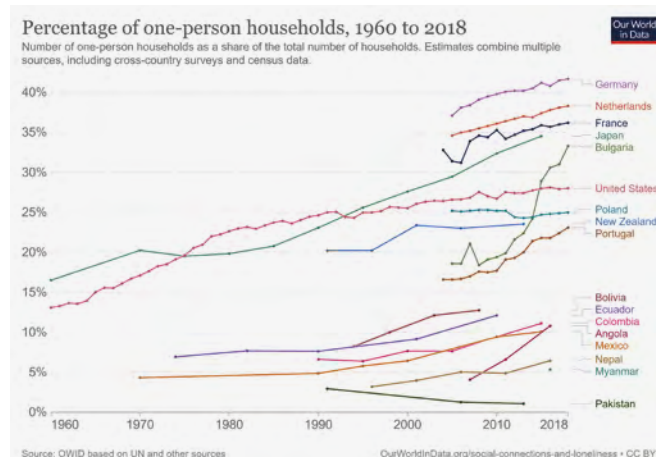
Housing is the largest expenditure for households on average (OECD, 2021). "From 2007 to 2017, the cost of housing for low-income tenants increased in three-quarters of the countries in the European Union" (Fondation Abbé-Pierre – FEANTSA, 2019). While these difficulties have been affecting the poorest households for many years, a growing part of the middle class is now struggling to access housing.

IN FIGURES

Many low-income households spend over **40%** of their income on housing and are more likely to live in substandard housing. (OECD, 2021)

Many changes in our societies

Family structures have considerably changed over the past few decades and they will continue to diversify. The traditional model of the nuclear family is no longer the norm – far from it – and housing needs are changing according to the new trends emerging (single-parent families, blended families, large families, childless couples). Among the countries of the European Union, 13 countries already have more inhabitants over the age of 65 than inhabitants under the age of 20 (Territory Observatory – ANCT, 2023). By 2050, 1 in 6 people worldwide will be over 65, up from 1 in 11 in 2019 (Office of the High Commissioner for Planning, 2023). The number of people aged 80 or over is also expected to triple, from 157 million in 2022 to 459 million in 2050 (DESA, 2023). In developed economies, tomorrow's cities will be people by an aging population, and the construction and urban planning sectors will be called upon to meet a strong demand for adaptation.



The issue of social isolation is also becoming an important topic. From 1600 to 1900, the proportion of one-person households remained stable, generally below 10% (K.D.M. Snell, 2017). This type of household has since grown increasingly common, particularly since the 1960s. The current prevalence of one-person households worldwide is a recent and unprecedented social trend. Historian Keith Snell identifies several causes for this, including the increase in divorces, the lengthening of life expectancy, the decrease in birth rate, and the rise in living standards. In such a context, social ties are gaining ever more importance.

NOTE

In France, living in a home where one feels safe and enjoys privacy ranks highest among the criteria synonymous with a successful life, far ahead of social success and a prestigious career recognised by others (ObSoCo, 2023).

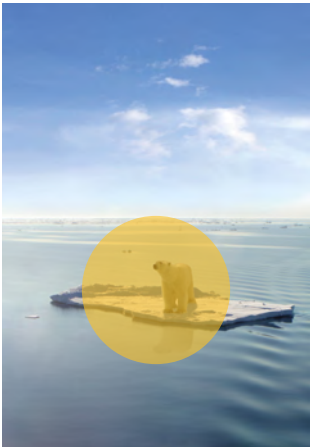
The impact of the COVID19 pandemic

The appeal of housing open to the outside or housing near green spaces, as well as the integration of nature in cities, have become increasingly important criteria for residents. Ever since the health crisis, people attach more importance to feeling good at home. The qualities of spaciousness, comfort, and hygiene, as well as access to nearby services and nature, have acquired weight in defining housing priorities (L'ObSoCo, 2023). Furthermore, the rise of remote working has disrupted our work patterns and, more broadly, the way we organise our lifestyles in terms of both time and space. Although 77.9% of people working remotely worldwide believe that remote and hybrid work has improved their well-being (CISCO, 2022), a poor separation between workspaces and living spaces can lead to an imbalance between work and personal life and a lower sense of fulfilment at work (Remote, 2023).

IN FIGURES

In 2022, according to a survey conducted across the EU on the feeling of loneliness, **13%** of respondents stated that they felt lonely most of the time or all the time in the last month, while **35%** reported feeling lonely at least occasionally. (F. Berlingieri et al., 2023)





Adaptation to climate change in the housing sector

Human-induced global warming is an established scientific fact, and the 2011-2020 decade has been the hottest in approximately 125,000 years (IPCC, 2023). In 2019, the concentration of CO₂ in the atmosphere reached an average of 410 ppm, a level that had not been reached in 2 million years (IPCC, 2023). The IPCC scenarios also show that the global warming level of 1.5°C compared to the pre-industrial era will be reached as early as the beginning of the 2030s, regardless of present efforts to reduce global CO₂ emissions. Improving housing involves adapting the habitat to the many impacts of climate change.

IN FIGURES

In France, a surface area of **20,000 to 30,000 hectares** is developed (taken) each year. The rate of land take is therefore rising almost 4 times faster than the population, and this has direct repercussions on the quality of life of citizens as well as on the environment. (Ministries of Ecology, Energy, and Territories, 2022)

Combating land take, a major goal for Europe

All over the world, lands and soils endure a variety of pressures (urbanisation, erosion, contamination from agriculture and industry, landscape fragmentation, and so on) that greatly degrade their quality. In Europe, the rate of land taken has been slowing down recently: it dropped from an average of 1,086 km² per year between 2000 and 2006 to 711 km² per year between 2012 to 2018 (European Environment Agency, 2019). To limit and further reduce land take, we must focus on circular urban planning, which means rebuilding the city within the city by renovating, rehabilitating, or transforming existing buildings.

For the EU to achieve zero net land take by 2050, the European Commission has mandated that Member States define "ambitious targets by 2023 to reduce net land take by 2030 at the national, regional, and local levels" (European Commission, 2021). Proposals such as the Zero Net Land Take approach (Climate and Resilience Law) in France embody a paradigm shift that profoundly alters the modalities of urban development.

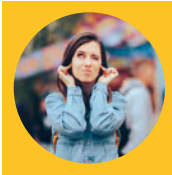
IN FIGURES

Between **3.3 and 3.6 billion people** live in a situation of extreme vulnerability to climate change. (IPCC, 2023)



Many health risks associated with different types of pollution

The extent and impacts of air pollution are widely recognised¹, but other, lesser-known sources of pollution also have significant consequences on the health and well-being of residents. Noise pollution, for example, is a major problem. In Europe, it is estimated that 113 million people are affected by long-term daytime and nighttime traffic noise levels of at least 55 decibels², and 6.5 million people suffer from significant chronic sleep disturbances due to noise pollution (European Environment Agency, 2020).



Light pollution also has serious consequences. Many studies have shown that excessive exposure to artificial light at night is likely to increase the risk of health problems such as cancer and sleep disorders. Additionally, other studies indicate that "there is reason to believe that light pollution may also play a role in diseases such as atherosclerosis and Alzheimer's disease; this requires further investigation" (European Environment Agency, 2022).



IN FIGURES

75% of French people report experiencing at least one form of such nuisance in their home. (ObSoCo, 2019)

Ecological awareness on the rise

The global population is becoming ever more concerned about the potential consequences of climate change on their quality of life.

According to an international study (C. Hickman et al., 2021³), 59% of people are very or extremely concerned, and 45% believe that their feelings towards climate change negatively impact their daily lives.

In France, there is a growing desire to address major ecological and social challenges by adopting environmentally responsible actions. These actions include buying only locally produced seasonal fruits and vegetables (67%), making significant investments in insulation and energy savings (66%), avoiding the use of electrical appliances during peak consumption periods (63%), adopting a lifestyle that reduces travel and prioritises proximity (66%), and buying less and doing more oneself (63%) (ObSoCo, 2023). This reflects a commitment to sustainable practices and a focus on reducing environmental impact.



¹ In 2019, it is estimated that outdoor air pollution caused 4.2 million premature deaths worldwide (WHO, 2022).
² The WHO recommends reducing the average traffic-related noise levels to below 53 decibels over a full day.
³ Researchers surveyed 10,000 children and young people (aged 16 to 25) in ten countries (Australia, Brazil, Finland, France, India, Nigeria, Philippines, Portugal, United Kingdom, and United States), with 1,000 participants per country.
⁴ These are the findings of an IPSOS survey conducted in 34 countries, among 23,507 adults, aged 18 to 74 in the United States, Canada, Malaysia, South Africa, and Turkey, aged 20 to 74 in Thailand, aged 21 to 74 in Indonesia, and aged 16 to 74 in 27 other countries.

IN FIGURES

On average, **71% of the population** expects that climate change will have severe impacts over the next 10 years of their lives. (IPSOS, 2022)⁴

Adapting housing to changes in society



Economically, environmentally, and socially, the housing sector is at the crossroads of myriad challenges and transformations that encompass both global trends and the management of the personal sphere. Modern times, the pandemic, changing lifestyles, new ways of working, the search for social connection and a better living environment; these are just some of the factors that must lead us to re-invent housing in such a way as to adapt to the challenges and aspirations facing us today.



The pandemic has increased the demand for multifunctional and flexible spaces that can adapt to new situations. This represents a significant shift from traditional urban planning practices, such as single-use zoning, which often overlook flexibility and adaptability.



UN-Habitat, 2022

A home that responds to current changes and challenges

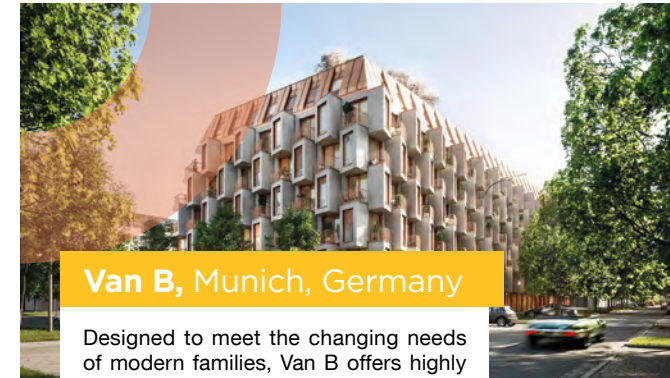
New demands are springing up, and they are pushing the construction and real estate sector to rethink the forms and models of housing so as to meet new usage requirements. Housing must now be scalable and flexible to satisfy the needs of a wide range of profiles and changing lifestyles.

Scalability and flexibility, increasingly on demand in homes

The health crisis has accentuated pre-existing housing trends and put emphasis on: "The narrowness of the rooms, the lack of light, the need or desire to expand the walls, to go outside while staying at home, on your balcony, terrace, or in your garden" (IDHEAL, 2020). In response to our changing needs, a range of solutions based on principles of scalability, flexibility, adaptability, and modularity are emerging in the construction industry.

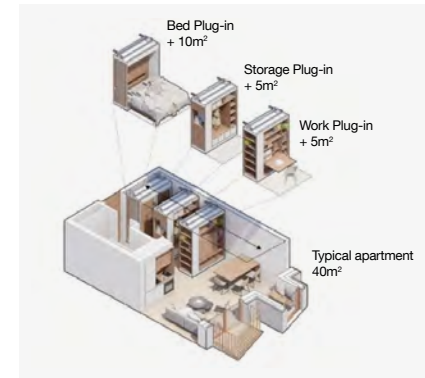


Contracting party: Bauwerk Capital GmbH & Co. KG
Architects: UNStudio
Delivery: 2023
Source: © Bauwerk / bloomimages



Van B, Munich, Germany

Designed to meet the changing needs of modern families, Van B offers highly flexible apartments, outdoor spaces, and shared communal areas. To do this, a system of adaptable partitions and furniture was designed, based on plugins. Residents can reconfigure apartments according to their immediate needs and choreograph their space based on their daily routine.



Contracting party: Eiffage Immobilier
Atlantique Axanis
Architects: Bruno Rollet and DND Architectes
Delivery: 2019
Source: © Jérémie Buchholtz et Luc Chery



Résidence du Lac, Bordeaux, France

In the Aubiers district of Bordeaux, the architectural firm Bruno Rollet has constructed buildings connected by a 10m² extension in the central part, dubbed "an extra room". So, out of the 132 housing units in the project, 60 have the option of an extension, a 10m² room that is weatherproof but not heated, and not regulated. The idea is to allow future buyers with modest incomes, in a very short time and with little means, to gain an extra room. This space, a continuation of the balcony, can be used immediately or later to create an office for work or a bedroom when the family grows, or serve as a guest bedroom.

Towards a spatio-temporal design of uses in buildings

A time-based or "chronotopical" approach enables the residents' various paces of life to be addressed, along with housing needs that go with them. Involving "the articulation of space and time, [this approach] requires a rethinking of the urban system in terms of flows rather than stocks, of time rather than space, of the temporary rather than the permanent" (L. Gwiazdzinski, 2013). Applied to construction, it means blending a building's functions to include day and night, weekdays and weekends, work periods and holidays.

“

Space has often been arranged to save time but time has rarely been arranged to save space.

”

Luc Gwiazdzinski

Geographer, researcher at the LRA laboratory, and Professor at the National Higher School of Architecture (ENSA) in Toulouse

Chronotope Wall House, Seongnam-Si, South Korea

The walls of the Chronotope are not designed as a dividing tool but rather as a frame for concurrent spaces and continuous time. The living space on the first floor, the office on the second floor and the semi-outdoor courtyard on the first floor combine penetrating spaces set at the centre of the walls. These allow visual communication between the different rooms while composing a living space adapted to all daytime uses.



For more information, see our Trends report #9 entitled "Hybrid Spaces, Cities in Transition."



← **Contracting party:** UnSangDong Architects
Architects: Jang Yoon Gyoo, Kim Mi Jung
Delivery: 2016
Source: © Sergio Pirrone



Bureaux du Cœur (Charity offices)

This association aims to promote the use of professional premises to give people emergency shelter when they are vacant, in the evenings and on weekends. It provides emergency shelter for a period of 3 to 6 months to people in extreme vulnerable situations, collaborating with associations that focus on reintegration. Bureaux du Cœur thereby provide a safe, private environment inside corporate premises, facilitating the process of reintegration steered by partner associations.



Source: © bureauxducœur.org



Student rooms open to tourists during the summer

Created by a former Oxford student in 2007, the UniversityRooms.com website offers universities the opportunity to rent out unused student rooms during holiday periods. The offer also includes a service feature (cleaning and check-in/check-out of rooms). The site now has availability in over 400 universities and student residences in 100 cities worldwide.

Usage intensities, pooling (sharing resources), and social interactions

More and more actors in France are opting to intensify the use of buildings, thereby limiting land take whilst increasing opportunities for social interaction. The sharing of spaces between different entities, organisations, or individuals involves communal use of facilities and premises that can be made available for a variety of purposes. Pooling means sharing resources, be they related to infrastructure, skills, or services. The general idea is to optimise by reducing costs through cost-sharing while fostering social interactions.



For more information, see our Trends report #2 entitled "Oser la mutualisation dans le logement social" ("Dare to share in social housing").

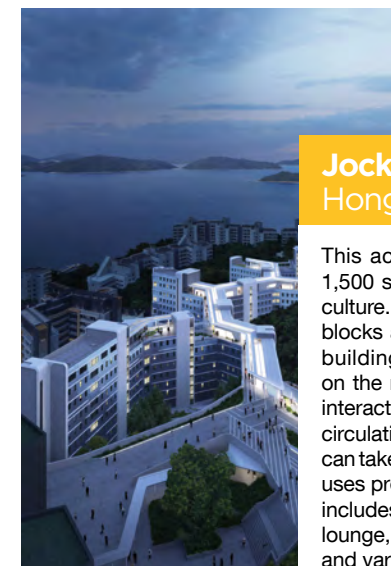


Jockey club I-village, Hong Kong

This accommodation has been designed to host 1,500 students and help strengthen cross-campus culture. Each block is connected to its neighbouring blocks as well as to some of the existing university buildings by a 200-metre-long shaded walkway on the rooftops, forming an active space for social interaction. This walkway is designed to be the main circulation path, a space in which students and staff can take a break and get together. The building design uses prefabricated facade panels, and each module includes communal areas such as a kitchen, study lounge, and a zen garden offering wellness classes and various activities.



→ **Contracting party:** The Hong Kong University of Science and Technology
Architects: Zaha Hadid Architects, Leigh & Orange Architects
Delivery: 2023
Source: © Visual Brick



MIXED USES, A SOLUTION THAT OFFERS A HOST OF BENEFITS

To combat urban sprawl and address the scarcity of land, the concept of programmatic mix or hybridisation of uses has considerably revived lately, sparking interest among many stakeholders in urban development. By thinking ahead to plan multifunctionality in a building, a more intensive use of spaces can be achieved, by accommodating a diversity of uses or users, pooling costs and resources, and fostering social interactions.

IN FIGURES

The office occupancy rate in Europe has risen from 43% (June 2022) to 55% (February 2023), but still remains significantly lower than the pre-pandemic average (70%). (Savills Research, 2023)

Homes that adapt to new uses and lifestyles

Increasingly diverse uses are made of today's homes: working, entertaining, learning, consuming, healthcare, DIY, gardening, cultivating, producing, etc. Through this kind of hybridisation of uses, housing incorporates activities or functions that once pertained to other types of places. Usage value now extends to the amenities and services associated with a building or neighbourhood, such as mobility services, concierge services, neighbourhood social networks, and so on. Housing is therefore becoming more and more service-oriented in order to fit in with new lifestyles and satisfy the aspirations of daily life.

IN FIGURES

1 in 5 French people consider their home unsuitable for their needs. (ObSoCo, 2023)

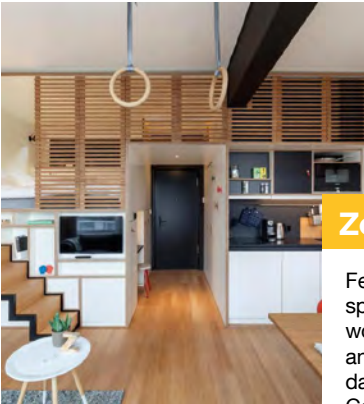
The boom of remote working: seeking to strike new balances

The COVID-19 crisis has boosted the remote working trend and demonstrated how crucial the qualities of modularity and flexibility are in housing, to accommodate a variety of uses in a single day. Housing should be thoughtfully designed to offer enough flexibility and adaptability to anticipate future uses and respect each person's privacy.



IN FIGURES

Almost 40% of workers in the European Union started working remotely on a full-time basis after the pandemic. (Eurofound, 2020)



Source: ©2023 Zoku

Zoku, Europe

Featuring a flexible layout and optimised spaces, the lofts are designed for living and working. The bed, for instance, is retractable and disappears behind a panel during the day. Zoku offers lofts in Paris, Amsterdam, Copenhagen, and Vienna.

Source: →
© bouygues-batiment-sud-est.fr



ZAC Nouveau Saint Roch, Montpellier, France

Programmatic diversity is one of the main goals of the ZAC Nouveau Saint-Roch project in Montpellier, and buildings such as Belaröia and Saint Roch Social Club embody this principle in their programming. The Belaröia houses two hotels on five levels, a ground floor brasserie, twelve apartments, and a cantilevered terrace on the top floors. The Saint Roch Social Club takes the model even further by bringing together about 7,300 m² of coworking space, hybrid accommodation, co-living spaces, open communal areas, as well as a rooftop swimming pool.

BELARÖIA
Contracting party: Linkcity
Architects: Manuelle Gautrand Architecture
Main contractor: Bouygues Bâtiment France
Delivery: 2019

SAINT ROCH SOCIAL CLUB
Contracting party: Linkcity
Architects: Cusy Maraval architects
Main contractor: Bouygues Bâtiment France
Delivery: 2023

Bi-residence. The second home becomes a "semi-main" place of residence.

Living in an apartment or a house close to your workplace during the week, while keeping a second home or pied-à-terre in a less urban setting. Bi-residency is an emerging trend, inspired by the flexibility of remote working. The successive lockdowns have reminded us of the importance of feeling comfortable at home, having access to outdoor spaces, and being close to nature. The challenge of satisfying these demands in large cities has brought forth new kinds of lifestyle, that involve more mobility. The trend of "growing dissociation" between places of residence and places of work mainly concerns the most affluent inhabitants of large cities.

Increasingly service-oriented real estate industry

For several years now, the concerns of users have extended beyond the purely economic dimension, shifting to include experiential and relational aspects. User experience is now at the core of value propositions, through a variety design approaches. The challenge is therefore to move from simply selling or renting square metres of living space to concentrating on the housing's usage value, with the user taking centre stage.

The standard of the housing's usage value is also measured by the services offered and the diversity of possible uses: concierge services, laundry facilities, entertainment, dining options, relaxation areas, fitness rooms, coworking spaces, neighbourhood social networks, car sharing, etc.

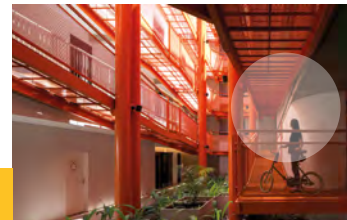
Les Biens en Commun (meaning "common property"), France

Classed under the social and solidarity economy, this company aims to make sharing the norm for facility usage by 2050. It has set up a system to share everyday facilities and stimulate social interactions among users. Through an app, users can now find out if the desired facilities are available and then rent them through smart lockers.



Source:

©Javier Agustin Rojas →

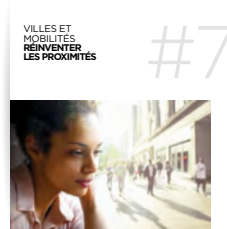


Casa Ho, Argentine

Casa Ho, a building in Villa Urquiza, Argentina, features a bicycle ramp that runs through the entire central courtyard from the ground floor to the fifth floor. This feature allows all users to enter through a separate door into an upward circuit and store bicycles in a dedicated area that can accommodate 40 bikes on each floor.



For more information, see → our Trends report #7 entitled "Villes et mobilités, réinventer les proximités" ("Cities and mobility, reinventing proximity").



CONSIDERING MOBILITY IN REAL ESTATE PROJECTS

Taking the connection between housing and mobility into consideration is becoming increasingly important nowadays. This aspect can be integrated in various forms, such as self-service electric vehicles, bike storage facilities, shared mobility hubs, mobility packs, and so on. But it also involves taking

the convergence of building and mobility into consideration; in other words, developing energy ecosystems for the building-mobility pair, designed to tackle challenges of production, storage, and erasure while striking the right energy balance for the building-electric vehicle pair.

Homes that satisfy a diversity of profiles

How to tackle the challenges set by residential projects with complex and changeable trajectories? This question raises the challenge of designing housing that can adapt to everyone, while accounting for the specific needs of population sets: seniors, children, people with disabilities, single-parent families, etc.

Designing for different family models

The traditional family unit has evolved over the past few decades, giving rise to myriad configurations: individuals living alone, couples with or without children, single-parent families, blended families, and so on. Family structures are changing, and they require modular, flexible housing, equipped in such a way as to cater to a variety of profiles.



Source: ©NEOZ Linkcity



Concept Neoz, Linkcity, France

Housing demands have changed significantly in recent years. Everyone aspires to more comfort and modularity, and demands on space and services are increasing, especially in densely populated areas for families. Neoz meets this need by combining "ready-to-live" rental housing (with a fitted kitchen, installed lighting, etc.) and a lifestyle experience built into the construction, featuring communal spaces for teleworking, relaxing, entertaining, along with a range of shared services (concierge, academic support, etc.). Neoz aims to make the lives of its residents easier while ensuring that they feel comfortable in their homes, all within an overall budget that improves their daily lives. A brand developed by Linkcity in collaboration with an investor and an operator.

IN FIGURES

In 2023,
17%
of Europeans live in housing with an insufficient number of rooms compared to the size of their family.
(Observatory of Inequalities, 2023)

WHAT ABOUT SINGLE-PARENT FAMILIES?

In Europe, the proportion of single-parent families rose from 14% to 19% between 1996 and 2012 (Insee References, 2015). This presents challenges in terms of organisation and leads to a significant drop in the standard of living (excessive financial burden to afford housing, overcrowding, etc.). Due to this, "children from French single-parent and stepfamilies more often live in overcrowded housing" (Insee Première, 2020).

IN FIGURES

Single-parent families face "exacerbated substandard housing conditions:

1 in 5 single parents with dependent children live in an indecent dwelling, compared to 13.1% of the entire population." (Fondation Abbé Pierre – FEANTSA, 2021)

Commune, France

Reacting to the fact that a quarter of French families are single-parent families and that this is a significant factor of vulnerability, the company Commune launched a co-living offer for single-parent families in 2023. This enables families to save an average of over 25% on housing compared to traditional alternatives. The residences offer spaces and services designed to make life easier for families (school transport, laundry facilities, babysitting, sports and artistic activities, etc.).

NOTE

The World Health Organization (WHO) divides old age into three stages: the third age, when one becomes a "senior citizen" (from 65 years old), the fourth age associated with limited mobility or daily activities (between 75 and 85 years old), and a fifth age, which includes individuals aged 95 and above.



To find out more, see our Trends report #4 entitled "Bien vieillir chez soi" ("Aging well at home").



Adapting housing for the elderly

In view of the aging population, the design and adaptation of housing for elderly individuals has become a key issue in urban planning, as highlighted by UN-Habitat in its New Urban Agenda, which emphasises "the importance of age-inclusive planning" (UN-Habitat, 2020). The category "elderly" refers to a heterogeneous population with highly variable degrees of autonomy, dependency, and isolation. Matters such as autonomy and isolation, or the desire to stay longer in one's own home rather than joining specialised establishments, emerge as major factors to be considered.

Retirement home that fosters communal living, Innsbruck, Austria.

Contracting party: → StadtBAU GmbH and ISD
Architects: ARTEC architekten
Delivery: 2015
Source: © ARTEC architekten



This retirement home provides a welcoming environment for seniors, offering residents many communal areas that open up to the city (such as lounges, a library, shared terraces, and a café-restaurant that can be adapted according to activities and events). Furthermore, a pedestrian and cycling path, a public square, and a large children's playground make the place attractive and suitable for hosting different generations.



IN FIGURES

Globally, **16%** of adults aged 60 and above live in one-person households. (S. Kramer, 2020)

Résidence Selma Seniors, Angers, France

In 2018, Angers Loire habitat acquired two buildings through VEFA, including 36 housing units intended exclusively for seniors. These apartments were designed to facilitate aging at home and contribute to the autonomy of elderly individuals. The apartments are equipped with switches in contrasting colours to compensate for visual impairments, an ergonomic shower room, pathway lighting to the bathroom for nighttime awakenings, an intercom system compatible with hearing aids, and the option to make housing smartly connected in case assistance is needed.

Designing residences for people with disabilities

Various innovations have emerged to contribute to the autonomy of people with disabilities and improve accessibility for them. These enable housing to be adapted to various types of disabilities (physical, auditory, visual, etc.), thereby improving the quality of life for the people concerned. Housing adapted to people with disabilities above all means accessible housing featuring adapted facilities that enhance the autonomy of the inhabitants.

NOTE

A few items that promote accessibility and autonomy:

- **Non-slip floors:** to prevent accidents.
- **Inclinations/Slopes:** to minimise steps between different floor levels and, if there are differences in level, to mark them with contrasting shades for better visibility.
- **Waterproofing:** for floors in damp areas (kitchen, bathroom).
- **Automatic taps with sensors, or with extendable handles:** to make them easier to open and use.

IN FIGURES

Currently, it is estimated that **1.3 billion people, representing 16% of the global population, are living with a considerable disability**". (WHO, 2023)

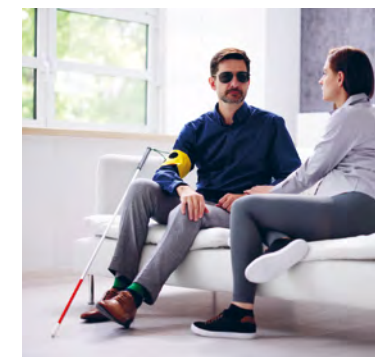


Le Clos d'Aïnara, Anglet, France

This is the first inclusive social housing residence specifically designed for elderly people and adults with disabilities. There are four buildings, one of which has fifteen housing units exclusively for people with autism, neurological disorders, cognitive impairments, or motor disabilities. The three other buildings consist of offices and housing units intended for open access and social access.



Contracting party: Maneo Habitat, Habitat Sud Atlantic
Architects: Imhotep and Premier Plan
Delivery: 2022



Equipping spaces adapted to children

The proliferation of screens, safety concerns in public areas, the increasing presence of cars in cities, and the lack of green spaces are just some of the factors that have affected the place of children in cities. "Children are spending less and less time outdoors," as child psychiatrist Stéphane Clerget points out (J. Durieux, 2022). There are solutions, such as organising traffic to create more playful spaces, or playgrounds designed for different ages at the heart of residential areas. Residential spaces can be arranged so as to contribute to children's motor, cognitive, and emotional development.



Pixeland, Mianyang, China

Inspired by the digital concept of pixels, the 100architects agency created a multifunctional public space through the addition and combination of independent functional pixels. Surrounded by small pixels of greenery to ensure privacy and safety in the residential neighbourhood, the square is also equipped with resting areas, picnic spots with seating and tables, lawns, and miniature amphitheatres for gatherings. Pixeland also features a wide range of playful features, including a playground in the middle of the square for younger children.



Contracting party: Dongyuan Dichan
Architects: 100architects
Delivery: 2019
Source: ©2Amey Kandalgaonkar



IN FIGURES

According to a survey conducted in the United Kingdom by the Islington Association, only **1 in 4 children** regularly plays outside on their street, compared to the generation of their grandparents where nearly 3/4 of them reported playing outside several times a week. (Save the Children, 2022)

More than **80%** of adolescents enrolled in schools worldwide engage in less than one hour of physical activity per day (WHO, 2019). "In the WHO European Region, 1 in 3 school-aged children is overweight or obese, and the rates are on the rise in many countries". (WHO, 2022c)

Towards housing that is more accessible to young people

While young students sometimes receive support from their families, they often have a limited budget and struggle to find accommodation within their means. In 2021, the average age for young Europeans to leave their parental home was at 26.5 (in France, the average is 23.6 years old) (INJEP, 2023). The main criteria for choosing student accommodation are price, size, location, and proximity to higher education institutions, recreational facilities, and public transport (FNAU, 2017).



RETURN TO THE FAMILY HOME DURING THE HEALTH CRISIS

According to a survey conducted by the Observatory of Student Life (OVE), the COVID-19 epidemic changed the housing situation for students. "44% report having moved from the housing they were occupying at the start of the health crisis." Most of them wanted to be closer to their family" (OVE, 2020).



NOTE

According to a study on the "Generation Z" conducted with JAM for Bouygues Construction, other factors considered by young people when making their residential choices are a sense of community, the importance of social connections, and the availability of outdoor space. In France, "with an equivalent budget, 70% of 15- to 25-year olds would choose smaller housing with an outdoor space over larger housing without an outdoor space." (Bouygues Construction & Jam, 2021).



Contracting party:
San Francisco State University
Architects: McCarthy Building
Companies, Inc. and EHDD
Delivery: 2024
Source: © EHDD



SFSU West Campus Green Affordable Housing, San Francisco, USA

The project includes an affordable student residence with a health centre and a shared lounge on each floor for various activities, designed to bring the community together. The health centre will house various outfits on the campus, including psychology services and units to promote health and wellness.



Housing crisis, a drama that's getting worse

At the end of 2022, the number of displaced individuals worldwide reached 108.5 million, marking an increase of nearly 20 million in just one year (UN, 2023). The waves of war and climate refugees have led to a "world encampment" that calls for the creation of survival housing (Y. Fijalkow, B. Maresca, 2022). Temporary and/or modular occupancy solutions, as well as partnerships, are being established to offer both equipped accommodations and support (administrative, legal, and psychological) to people in vulnerable situations.



Thanks to this project, more students will have access to affordable housing, which is essential in the Bay Area.



Jamillah Moore
Vice President of Student Affairs
and Enrolment Management at
San Francisco State

NOTE

The housing crisis (the realities of inadequate housing) is a complex situation that encompasses a multitude of factors. Fondation Abbé Pierre sets out five aspects of this situation: lack of personal housing, difficulties in accessing housing, poor living conditions, difficulties in maintaining housing, restriction of residential mobility, and "house arrest".

IN FIGURES

In 2019, it is estimated that a minimum of **700,000** people slept on the streets or in emergency or temporary accommodation every night in the European Union, which represents a 70% increase over the past 10 years.
(Fondation Abbé-Pierre – FEANTSA, 2022)

EMERGENCY ACCOMMODATION

Emergency accommodation is a temporary housing solution for homeless people or those forced to leave their current residence at short notice. This covers a wide range of situations: people who affected by a natural disaster, people without a fixed abode, victims of violence, or people in a state of medical, psychological, and social distress.

Villa Verde, modelling the "half-house" concept, Constitución, Chile

Following the earthquake and tsunami that devastated the city in 2010, architect Alejandro Aravena came up with a new type of social housing to reconstruct the city: customisable and extendable "half-houses." Fitted out with all the necessities, each half-house is ready for people to move in. The ground floor consists of a kitchen and a bathroom, and the upper floor has two bedrooms. The second part of the house, also composed of two floors, can be built and fitted out at any time.

Urban temporary roofs, Stains, France

Led by the Banque des Territoires, SNCF Immobilier, ICF Habitat, and the Departmental Council of Seine-Saint-Denis, this project aims to satisfy the housing needs of communities, provide emergency accommodation units, and create places of activity in high-demand urban areas. The designs have been created to be mobile and adaptable, catering to the needs of various sectors of society.



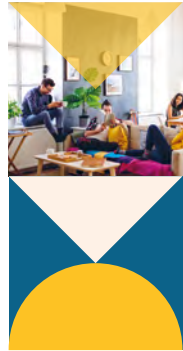
Source: © Cyril Crespeau



"ILOT", Marseille, France

The Prefecture and the Department of Bouches-du-Rhône inaugurated a new emergency accommodation unit for women who are victims of violence in 2021. The site can accommodate 52 people in recycled and fully equipped containers. The land, owned by Enedis, is made available to the association La Caravelle under a temporary occupancy agreement for a duration that may extend beyond the initial five-year period, depending on the availability of funding. On-site, the associations offer comprehensive support for families.

Sharing housing: the rise of co-living as a new trend



In the twentieth century, the predominant housing model was the single-family home. By contrast, there is now a rising trend in sharing living spaces. While this turn-around may spring from economic reasons rooted in the high cost of rents in big cities, it also seems that younger generations have a more questioning attitude to property ownership, as their lifestyles are much more mobile and flexible. Furthermore, the pandemic has also led people to put increasing importance in seeking out connections with society and their neighbourhood, and engage in forms of sociability.



The pandemic has highlighted how important social connections are to our well-being. "(...) Architecture can create environments where people can gather together, where neighbourhood communities can be formed, and where spontaneous encounters can take place.



Ben van Berkel

Founder and lead architect of UNStudio

The rise of shared spaces and services

Co-living has become ever more popular over the past few years. In the past, co-living tended to be viewed as a situation to be endured, but following the health crisis and successive lockdowns, the appeal of this practice has grown, and it is viewed as a good solution, that helps reduce isolation. While this kind of lifestyle was often one that people had no choice over, after the series of lockdowns during the health crisis, sharing a home has now emerged as more attractive way of living, one that contributes to reducing isolation.

Shared housing, from a temporary experience to a way of life

To save costs, out of personal preference, or so as not to feel lonely, co-living is no longer viewed as just a temporary state of affairs: it has become a way of life. As a matter of fact, "more than just a generational trend, co-living is becoming ever more appealing to tenants and investors alike" (F. Larceneux, 2022); this applies to most big cities across the world.

According to a survey conducted by the Observatoire du marché de la colocation (Observatory of the house-sharing market) in France in 2021¹, the advantages mentioned by housemates relate primarily to social life (meeting new people),

then to economic interest (reducing the budget), and lastly, to the size of the accommodation (enjoying a larger living space) (A. Petitdemange, 2021).

IN FIGURES

More than 1 in 4 French people say they have experienced living in shared housing. (Harris interactive, 2018)

Colocation solidaire Kaps (charitable shared housing), France

Kaps enables young people under the age of 30 to live in low-cost shared housing at the heart of a working-class neighbourhood. Kaps is committed to carrying out collective projects designed to promote interaction among residents and support neighbourhood initiatives. In 2023, the "colocation solidaire" (shared housing in solidarity) model is now being implemented in 40 cities in France.

Coliving, a new way of living together

Emerging in the 2000s in the United States, the coliving phenomenon has spread to many countries over the last few years. It offers flexible renting in a community where like-minded individuals live together, enjoying services tailored to their needs: laundry facilities, kitchen, workspaces, recreational areas, gym, etc. In addition to having their own room with a private bathroom, each resident can take part in a variety of events and activities to interact with others, usually organised by a manager who oversees the use of the spaces.

IN FIGURES

In France, 'coliving' sites are set to increase from about

10,000 accommodations at present to **26,000**

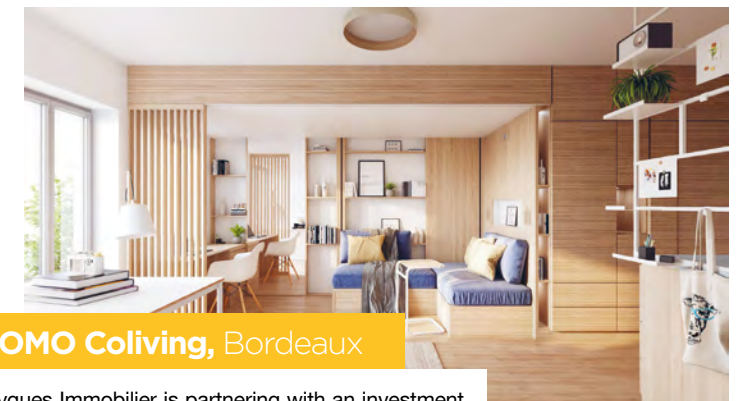
by 2025. Demand is 10 to 50 times greater than supply. (JLL, 2023)



The various aspects of this modernised version of living together – flexibility, services, community engagement – could therefore have a considerable impact, to varying degrees, on the way we all will be housed in the future.



Jessica Berthereau,
journaliste, 2019



NOMO Coliving, Bordeaux

Bouygues Immobilier is partnering with an investment fund managed by Ares Management (ARES) to create an investor-operator platform for the launch of its first coliving product under the NOMO brand. Through this platform, "next-generation" managed residences can be developed, acquired, and operated, in line with the new habits and requirements of people aged 25-40. This marks a new milestone for the coliving product developed by Bouygues Immobilier since 2020. The first site in Bordeaux is due to open in the first half of 2024.



Source: Bouygues Immobilier



¹ The study conducted by LocService was based on 6,755 requests and 6,893 shared accommodation offers submitted through their website over the past twelve months.

I-Art Residence,
Gradignan, France

The I-Art residence, composed of 364 housing units, is a co-living residence. To make the residents' daily life easier, the residence is connected and offers a range of services: home automation, smart laundry room, parcel lockers, etc. Approximately 503 m² of shared indoor spaces have been equipped as areas in which to interact and socialise: music studio, grocery store, cafeteria, fitness room, and coworking space. Nearly 1,333 m² of outdoor communal areas have been designed as recreational spaces in which to relax, take time out, and even do sports, on the fitness trail.



Contracting party:
LP Promotion
Architects: Lancoire &
Courrian
Delivery: 2023
Source: ©sweetly.fr



Vindmøllebakken,
Stavanger, Norway

Designed by the Helen & Hard architecture firm following the "Win by Sharing" community engagement model, this project consists of 40 coliving units, four townhouses, and 10 apartments. The private units are grouped around 500 m² of shared communal areas, owned on an equal basis by the residents, for leisure activities, gardening, or meals. After moving in, residents continue to participate in self-organised groups that manage shared facilities and tasks such as cooking, gardening, carpooling, and the preservation of the artwork in the communal areas.



← **Contracting party:** Solon Eiendom
AS and Indigo Vekst
Architects: Helen&Hard
Delivery: 2019
Source: ©Helen&Hard



**Residents take centre stage
in real estate projects**

Actors in city and territory development have come to realise the importance of user control, and now seek out the involvement end-users to enhance their role in collaborative project creation. Some initiatives go even further by creating housing cooperatives, composed of residents who want to collectively and independently build real estate projects. Broadly speaking, a rise in participatory approaches has emerged in recent years, and users are now playing central roles in the design and management processes of urban projects.

**Towards intergenerational
and friendly housing**

The aim here is to put the focus of housing projects on the social dimension, by promoting coliving among different generations, to encourage interaction between various population profiles. In this way, for instance, students can gain experience as earn their stay by helping and providing services to the elderly. More recently, childcare facilities have also been included in residences for the elderly, to support families.



Source: ©toitmoinous.fr



« Toitmoinous »,
Villeneuve D'Ascq, France

This is an intergenerational, shared, and community-based housing project consisting of 22 families (including 10 pensioners, 30 adults, and 15 children). The building was co-designed by eleven senior citizens with the assistance of the social housing provider, Notre Logis. The housing units are complemented by communal areas for shared activities: a common room, guest room, laundry room, workshop, and shared garden. Initially aimed at seniors, the project soon grew to include younger families, becoming intergenerational. Those wishing to join the project must sign a "charter of common life" and commit to applying the principles of solidarity and tolerance that the association is founded on.



Rudolf Seniors Home,
Helsinki, Finland

Finland's first multigenerational project was initiated in 2015 in the city of Helsinki. Its purpose is to tackle homelessness among the young while reducing isolation among the elderly. Three studios have been made available to young people aged 18 to 25 in exchange for a minimum of five hours per week spent with older residents to participate in various activities.

Participatory housing:
building a community life project

Participatory housing stands apart from traditional methods of housing production due to the collective commitment it is founded on, from the design of the property to its management (C. Devaux, 2013). These collaborative communities are steered and self-managed by groups of residents who want to build a real estate project together and share it.



Source: ©trabensol.org



Trabensol, Spain

Trabensol (abbreviation of the Spanish for "workers in solidarity") is a cooperative founded in 2002 by 54 residents. It became a pioneering centre for the elderly in Spain in 2013, reinventing the concept of senior co-housing first developed in Denmark and later in the U.S. People interested in taking up this way of life must be between 50 and 70 years old, identify with the basic principles of solidarity and mutual assistance, and have financial stability.

“
Participatory housing stands apart from traditional methods of housing production due to the collective commitment that pervades it, from the property’s design phase to its management.
”

Camille Devaux, 2013.
Researcher in Planning and Urbanism, Lecturer at Université de Caen



UrbaMonde

Founded in 2005 in Switzerland and in 2015 in France, this association aims to promote participatory housing at local and international levels. To this end, UrbaMonde supports the development of residents' cooperatives and collaborative housing through technical assistance to residents' groups and local authorities. It also steers the CoHabitat Network that adds value to existing collaborative housing solutions, for instance through the promotion of a collaborative housing award.

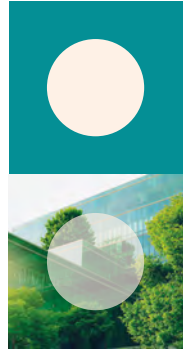
Source: ©urbamonde.org



Mutual aid housing cooperatives, Uruguay

Originally arising in the 1960s in the shape of informal associations, the Uruguayan model of Mutual Aid Housing Cooperatives has evolved into an institutionalised cooperative and is now widespread across South and Central America. This model, whereby a cooperative organisation structures self-production, automatically gives residents an important role, as they are involved in the process of selecting materials for their home and designing them.

Designing more resilient and sustainable homes



In 2021, global CO2 emissions from building use reached a record high of around 10Gt, or 10 billion tonnes (UNEP, 2022). Counting emissions from the production of building materials, estimated at about 3.6 Gt CO2, buildings accounted for about 37% of global emissions in 2021 (UNEP, 2022).

To achieve the goals of the Paris Agreement and effectively limit the rise in average global temperature to well below 2°C compared to pre-industrial levels, "new buildings, infrastructure, and renovations must achieve net-zero carbon emissions by 2050" (World Green Building Council, 2019).

The construction sector has a critical role to play in responding to the climate emergency. It must come up with solutions to reduce environmental impact and make housing more sustainable, resilient, and healthy.

IN FIGURES

In France, the ObSoCo survey shows people are growing increasingly weary of "small gestures." Respondents consider that the state, citizens, and large companies are most effective in tackling climate change. However, only

16%

consider that the government is taking the most action against climate change, and

7%

consider that large corporations are doing so. (ObSoCo, 2023)



Homes that respond to environmental issues and concerns

Our era is marked by great changes and uncertainties about the future. In an international study, "75% of the children and young people surveyed believe that the future is worrisome" (C. Hickman et al., 2021). The study also reveals a marked perception that governments are not responding adequately.

Renovation, a major consideration for future homes



To address environmental considerations, and do so in a context of resource scarcity, various measures are starting to be implemented across the world. Renovation emerges as a mandatory change for the construction sector, which must attain the twin goals of decarbonisation and improving energy performance. In view of this, energy renovation has become a major consideration for the construction industry. In the European Union, the situation is deteriorating: 42 million people, or 9.3% of citizens, were unable to heat their homes properly in 2022, compared to 6.9% in 2021 (EESC, 2023). In response to this situation, actions have recently been taken by various entities, such as the European Parliament, that in March 2023 adopted a measure to ensure that residential buildings achieve energy performance of minimum class E by 2030 and class D by 2033 (European Parliament, 2023).



The target announced in the European Green Deal is to renovate 35 million buildings (public and private) by 2030 with an annual investment of 275 billion euros.



European Commission, 2020

ENHANCING RENOVATION BY INDUSTRIALISING CONSTRUCTION PROCESSES

Industrialisation leads to gains in time, material, and efficiency while reducing nuisances on construction sites and defects, as the construction model can be repeated over and over.

Bouygues Construction is collaborating with Dassault Systèmes to develop the BRYCK approach, a digital and collaborative project management platform equipped with AI, designed specifically for the construction industry. Architects, engineering firms, and companies are involved in this project to bring customised micro-industrialisation into construction by incorporating AI into the digital model (particularly for staircases, facades, and technical ducts).



Rehabilitation of Camus houses in the mining basin, Noyelles-sous-Lens, Fouquières-lès-Lens, Carvin, Courrières, Sin-le-Noble, France

Bouygues Bâtiment Nord-Est has already tested this digital and collaborative management platform for the rehabilitation of 1,412 individual homes. A 3D scan of each house is made, and then façade plans are automatically generated. From these, plans for the layout of wooden panels are drawn up, optimising materials, and sent to the panel cutting and assembly factory. The prefabricated and easily transportable facade panels are then delivered and installed on the construction site. At this point, bio-sourced insulation, made of cellulose wadding, is blown between the wooden panels and the façade of the houses. As well as saving time (it takes about 10 days to renovate one house) and increasing productivity, this type of industrialisation significantly reduces the amount of waste.



Contracting party: Maisons et Cités
Architects: Redcat Architecture + BLAU + NORTEC + SYMOE
Main contractor: Bouygues Bâtiment France
Delivery: 2025
Source: ©Bouygues Construction



BYSPRONG: TURNING ENERGY-INEFFICIENT STRUCTURES INTO ENERGY-POSITIVE BUILDINGS

BYSprong is an R&D programme by Bouygues Construction aimed at scaling up energy renovations of buildings while improving their quality. The programme provides an industrialised solution to speed up the transformation of energy-consuming buildings into positive energy buildings. A BYSprong retrofit consists of five steps: automated studies, a low-carbon prefabricated insulation envelope, an all-in-one energy module to manage and optimise consumption, local and renewable energy production methods integrated into the building itself, and monitoring to control consumption and improve maintenance.



Building methods that are less carbon-intensive

To contribute to reducing CO₂ emissions, the construction sector must demonstrate innovation in the building methods used, particularly by promoting the use of bio-based and geo-sourced materials. Wood, for instance, is a renewable, bio-based material with carbon storage and capture capacities, and the timber sector is recognised as a strategic one in France. Bouygues Bâtiment France has therefore developed the WeWood branch, aiming to become one of the major players in the sector with a target of 30% of wooden projects by 2030. The use of new technologies can also drive the adoption of less carbon-intensive construction methods (off-site construction) and help anticipate the needs of future residents (BIM, virtual, augmented, and mixed reality).



Contracting party: ICON, Lennar Corporation.
Architects: BIG-Bjarke Ingels Group
Delivery: 2023
Source: ©Icon



Genesis Collection at Wolf Ranch, Georgetown, USA

After opening a 3D-printed shelter for homeless people in Austin as part of an experimental project, ICON launched the construction of one hundred 3D-printed homes in 2022. It takes only three weeks for the 3D printer to finalise the construction of the walls of a house: that is, 30% less time than for a traditional house.

3D PRINTING IN THE CONSTRUCTION SECTOR

3D printing opens up new avenues for the construction industry, with the possibility to create complex buildings while cutting down laborious tasks on construction sites.

It allows the nuisances that go hand-in-hand with traditional sites to be diminished, saving both time and materials. On average, the global market for 3D printing in construction is expected to double each year between 2023 and 2030 (Grand View Research, 2022). In France, Bouygues Bâtiment Grand Ouest, in collaboration with the University of Nantes, constructed "Yhnova", which was 3D printed using polyurethane by a 7-axis robot, for Nantes Métropole Habitat in 2017. It was the world's first 3D-printed social housing home to be actually inhabited.

Contracting party: →
Municipality of Plan-les-
Ouates
Architects: Perraudin
Archiplein Consortium
Delivery: 2021
Source: © Léo Fabrizio



Social housing in solid stone, Plan-les-Ouates, Switzerland.

Gilles Perraudin and Archiplein designed a complex of 68 social housing units, available for rent or purchase, distributed across two buildings constructed with solid stone. The project helps change people's perception of stone construction, that tends to be seen as artisanal, and demonstrates the economic, structural, and technical feasibility of solid stone housing.



Modular wooden system to create affordable housing, Ridderkerk, The Netherlands

In partnership with BIK Bouw and Wooncompas Housing, HA-HA is developing four blocks of social housing for the Ridderkerk community, near Rotterdam. The project uses materials from existing blocks built in the 1950s and employs an innovative modular wood system to create more sustainable housing. There are also plans to reuse the concrete structure and basement of the existing buildings as foundations for the new modular units, while the bricks will be reused for the landscaped pathways.

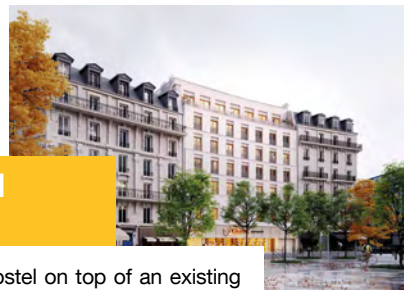


← **Contracting party:** Wooncompas
Architects: HA-HA Design & Development
Delivery: Construction en 2024
Source: © HA-HA Design & Development



Youth hostel in elevated wood, Paris, France

For the challenge of building a youth hostel on top of an existing structure, as a five-story extension, Linkcity opted for low-carbon construction made of wood (spruce). The lightness of the wood material, combined with its speed of instalment, meant that this extension could be completed within a reduced timeframe, minimising disruptions and keeping businesses open on the ground floor. A rooftop restaurant offers breathtaking views of Place de la Nation.



← **Contracting party:** Linkcity
Architects: JBMN Architectes, Architecture Pelegrin
Main contractor: Bouygues Bâtiment Ile-de-France – Habitat Social
Delivery: 2021
Source: © JBMN Architectes



Housing faces the need for climate resilience

Beyond sustainability, resilience is a weighty consideration for the long-term development of our territories. Climate resilience refers to the ability of territories to continue functioning independently despite major upheavals (such as floods, heatwaves, storms, etc.), while also reducing chronic everyday stresses (such as air pollution, aging infrastructure, etc.) and adapting to long-term constraints related to irreversible changes (such as climate change, resource scarcity, and biodiversity erosion).



For more information, see our Trends report #10 entitled "Resilience, a horizon for sustainable territories"



Energy self-sufficiency, a model of resilient housing

To improve resilience and foster a circular economy, an increasing number of actors in the field of territorial development are focusing on energy self-sufficiency. The aim is to envision bioclimatic buildings and enable energy supply through more sustainable solutions (geothermal energy, biomass heating, etc.).



IN FIGURES

In France,
73%
des Français
of French people
aspire to achieve
energy self-
sufficiency, and
65%
aim to move towards
food self-sufficiency
within the context
of household-scale
production.
(ObSoCo, 2019)

ABC®, Grenoble, France

As France's first building concept aimed at self-sufficiency, the ABC® (Autonomous Building for Citizens) project features roofs that enable rainwater to be collected and reused, while also capturing solar energy. It uses three times less water and energy from urban networks than a standard housing unit, boasting an annual rate of self-sufficiency in energy and water of up to 70%. The energy generated by the "photovoltaic sails" is stored using batteries. An ABC® building is a net positive energy (BEPOS in French) building for all purposes.



Contracting party: Linkcity
Architects: Valode et Pistre
Main contractor: Bouygues Bâtiment France
Delivery: 2020
Source: © Nicolas Grosmond





Tillamook Row, Portland, USA

Tillamook Row is an extremely energy efficient project based on a solar installation. The backup battery system, combined with a 13,000-litre rainwater storage tank, enables residents to remain self-sufficient in the event of a public service interruption and provides an additional capacity to assist neighbours in need. Furthermore, heat recovery ventilation systems continuously provide fresh and filtered air in bedrooms and living spaces, while removing contaminants from bathrooms and kitchens. Lastly, all buildings have an outer envelope designed to reduce heating and air conditioning loads by 80%



Contracting party: BCMC Properties
Architects: Green Hammer
Delivery: 2019
Source: ©Bill Purcell



Coping with climate hazards

Floods, heatwaves, water shortages, soil subsidence, earthquakes... Out of the 1,146 cities worldwide with a population of at least 500,000 in 2018, 679 (or 59%) were exposed to a high risk of at least one of the six types of natural disasters¹ (UN – DESA, 2018). In this context, it has become a priority to design and build infrastructure that is safe and that can cope with these different hazards. This involves, for example, implementing solutions to withstand and adapt to increasingly intense weather phenomena (heatwaves, floods, droughts, etc.).

Our resilient house, Ashgrove, Australia

"Our Resilient House" is a post-war house redesigned to withstand extreme weather conditions. The photovoltaic system and Powerwall battery provide over 75% of the electricity, ensuring backup resilience and reducing peak demand on the grid. The connection to the city gas has been removed and hot water is provided by the solar system installed on the roof. The kitchen garden, comprising a hive and a chicken coop, is irrigated by the rainwater tank, which is also connected to the toilet, washing machine, and roof to clean the solar panels.



Contracting party: Rynders
Constructions Pty Ltd
Architects: Contexture
Delivery: 2021
Sources: Christopher Frederick
James / archdaily.com



¹ These include cyclones, floods, droughts, earthquakes, landslides, and volcanic eruptions.

Contracting party: Linkcity
Architects: Plages Arrière-
Architectes (Architectes), Atelier
Philippe Madec (urbaniste),
Agence Mayot-Toussain
(paysagiste), Cabinet Merlin
(VRD)
Main contractor: Bouygues
Bâtiment France
Delivery: 2026
Source: ©NHimages



Bruges 2, Dijon, France

Developed by Linkcity in close partnership with the Métropole and the City of Dijon, the Bruges 2 project tackles two of the region's major considerations. The first is to contribute ambitiously to the goal of enhancing the Dijon Metropolis area's food resilience, through efforts such as creating an urban market gardening farm of about 6,000 m². The second is to contribute to flood risk mitigation in the greater metropolis area, by reconfiguring the banks of the Ouche River and building support structures that serve as protective measures. This urban project has also taken climate issues into account in its design, using an R&D approach to combat the effects of urban heat islands and reducing carbon impact by opting to rehabilitate existing housing rather than demolish and rebuild. The use of bricks throughout the project gives the new neighbourhood a distinctive look.



STUDIOS 90, Kodla, India

Sanjay Puri Architects set out to create studios, a foyer, and a guest house to house the workers of a new cement plant. The local climate was taken into account in the design (sheltered balconies facing north, rainwater harvesting, etc.), as Kodla is a region where temperatures exceed 35°C for nearly eight months of the year. Built economically with a focus on natural ventilation and sunlight, the buildings consume electricity sourced from the residual energy generated by the nearby cement factory.



Contracting party: Shree Cement Ltd
Architects: Sanjay Puri Architects
Delivery: 2022
Source: ©Ricken Desai



FRUGAL HOUSING, A LOW-TECH SOLUTION ADAPTED TO HOUSING

The low-tech approach is a world away from the "smart city" and "green tech" models that rely on increasingly inaccessible energy as well as on metals and land that are becoming scarce. Instead, it prioritises the search for the right need and frugality, implementing construction and development models that consume less energy and resources, and produce less waste.



For more information, see our Trends report #13 entitled "Low-tech, Just-tech, Right-tech... novel approaches for cities and territories"



Anticipating the evolution of buildings through reversibility and adaptability

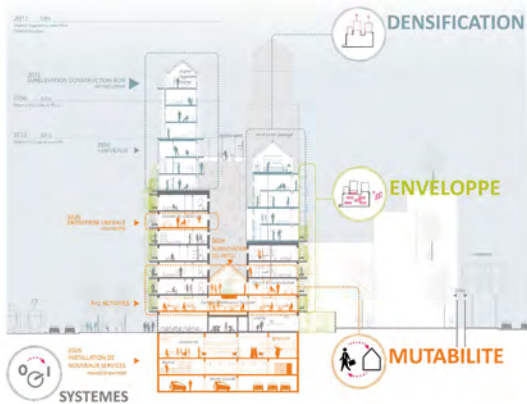
Resilience also involves a willingness to move towards greater adaptability in cities, through buildings that can evolve and infrastructure that is reversible. By considering how to incorporate adaptability and reversibility into structures from the very outset, at design phase, future changes in building usage can be anticipated. We can therefore come up with better responses to societal changes and minimise the costs of future transformations.

NOTE

Reversibility in construction means "the programmed capacity of a new structure to easily change its purpose through a design that, in advance, minimises the extent and cost of adaptations." (Canal Architecture, 2017).

→

Contracting party: RIMP
Architects: Elizabeth Naud & Luc Poux, Associate Architects
Delivery: 2017
Source: ©Naud&Poux / Schnepf-Renou



Pari(s) 2072, Boulevard Davout, Paris, France

Paris 2072 is a construction project consisting of 68 social housing units, a nursery, and community spaces, that induces reflection on the obsolescence of buildings and their inability to embark on a second life. Beyond the adaptability of the buildings, the foundations and structure have been reinforced to enable the construction of three to five additional levels, and the building envelope is designed to be enhanced in the future with the addition of balconies and winter gardens.



An office building was created in the ZAC 2 of La Confluence in Lyon, while the site awaits its second life cycle in which it could accommodate 58 housing units. At present, there is a fast lane adjoining the building that causes nuisance. By 2030, the expressway will be downgraded to an urban boulevard designed to improve quality of life. The building will then be converted into housing at a lower cost and in a shorter time. Designing next-generation buildings that are structurally conceived to be "evolutionary" and "reversible," to anticipate future uses and facilitate upcoming transformations, enhances resilience in the face of uncertainty.

Work#1, Lyon, France

↑

Contracting party: Linkcity
Architects: David Chipperfield Architects and AIA ARCHITECTE
Main contractor: Bouygues Bâtiment France
Delivery: 2021
Source: ©Linkcity



Conversion of a garage into residential units, Paris, France

The project was entrusted to architects: Atelier Tequi Architectes and CET Ingénierie. The study was conducted by the teams of the Rehabilitation Engineering Department of Bouygues Bâtiment IDF – Habitat Social (Social Housing), with the assistance of WeWood (a Bouygues Bâtiment France initiative), to execute thorough restructuring and build a wooden extension of three levels on a former Peugeot garage. The development will comprise 63 apartments, 60% of them as social housing and 40% as property shares, along with a street-level commercial area. For the existing part of the structure, this operation aims to obtain BBC Effinergie Rénovation and NF Habitat HQE Rénovation certification. For the new part, it will be certified Effinergie + NF Habitat HQE Construction and Bâtiment Biosourcé (Biosourced Building). The building as a whole will meet the requirements of the City of Paris' Climate Plan.



←

Contracting party: Quadral Promotion
Architects: Atelier Tequi Architectes
Delivery: 2024
Source: ©Inui



→

Contracting party: SCCV
Tour Elithis Bordeaux
Architects: Canal architecture & Elithis Solutions
Delivery: Planning permission without designation obtained in May 2023
Source: ©Elithis groupe - Canal Architecture



TEBIO, a building of nearly 4,500 m² with no specific purpose, located in Bordeaux, France

The building is a single entity, divided into two volumes, featuring a system of reversible floors. Other than the nursery and the permanent residential units on the ninth floor, all levels can be converted into residential units or workspaces, either in an open-space layout or in smaller divisible formats. The project is based on the "permis d'innover," an experimental derogation scheme led by the Ministry of Territorial Cohesion and Relations with Local Authorities. The building will include prefabricated wooden facades with mineral cladding and terracotta tiles.

NOTE

Unlike reversibility in construction, which is an architectural process, reversible in housing is a type of residence that allows the land to return to its original state when dwellings are moved, dismantled, or composted. Among all types of reversible housing, there are four main categories: mobile, transportable, removable, and biodegradable (Hameaux légers, 2020).

→

Contracting party: WASP
Architects: Ricehouse
Delivery: 2018
Source: © WASP

Gaia House, Massa Lombardia, Italy

WASP, a 3D printing studio, took just 10 days to create a residential prototype using earth, rice-based products, and hydraulic lime, using a 3D printer suspended from a crane. Gaia is a structure with almost zero environmental impact, that does not require heating or air conditioning systems as it maintains a comfortable temperature throughout all seasons.



Hameaux Légers association, France

Founded 2017, the Hameaux Légers association aims to facilitate the development of participatory housing projects in the form of eco-hamlets that are both reversible (such as yurts, tiny houses, Kerterres, mobile homes, or trailers) and affordable, in partnership with the regions hosting them. The association also provides extensive training and information on the subject. For instance, it offers a Massive Open Online Course (MOOC) entitled "S'installer en habitat réversible" ("Setting Up in Reversible Housing").

Designing buildings for the well-being of their inhabitants

The first steps to establishing health and well-being are to promote a neighbourhood that encourages active modes of transport, provides green and friendly spaces, and includes water points. The architectural quality of the residences also plays an important role. Thermal comfort, brightness, ventilation, and quality of materials are essential factors in fostering residents' health. There are other solutions available to help relate urban spaces to health. One is active design, which creates interfaces that encourage us to engage in physical activity in our daily routine.



For more information, see our Trends report #8 entitled "Territories that favour health and well-being".

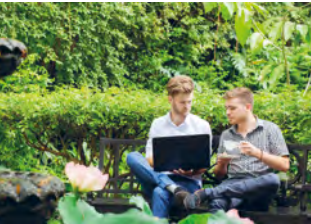


Allowing natural light and fresh air into the house could be one of the many ways to restore our connection with nature.



Peter Foldbjerg

An expert in daylight, energy, and indoor climate (VELUX, 2019)



The design of buildings for the well-being of residents

Taking into account health and well-being begins with promoting a neighborhood that encourages active modes of transportation, offers green spaces, friendly areas, and water features. The architectural quality of residences is also an important lever, where principles of thermal comfort, brightness, ventilation, and the quality of materials are essential to promote residents' health. Other solutions allow for the connection between health and urban space, such as active design, which creates interfaces that encourage us to engage in physical activity in our daily routines.

IN FIGURES

In 2016, over a quarter of the world's adult population was not sufficiently active and **81% of adolescents aged 11 to 17** were not sufficiently active¹ (WHO, 2022b).

In France, obesity has exploded in 20 years, rising from **8.5% to 17%** of the population between 1997 and 2020. (A. Fontbonne et al., 2023)

¹ The World Health Organization (WHO) recommends at least 150 minutes of moderate-intensity physical activity, or 75 minutes of vigorous-intensity activity per week.



Via Verde, New York, USA

Via Verde is a compound designed according to an architectural concept in which gardens are arranged in successive terraces that spiral up towards the green roof of the buildings, encouraging residents to walk up to their homes instead of using elevators. The suspended park turns into a genuine living space: residents can go for a walk, garden, engage in sports activities, amongst other things. Special attention has been given to the design of the stairs and shafts: they are wider, naturally lit, and brightly coloured to encourage people to use them to walk up.



Contracting party: The Phipps Houses Group, Jonathan Rose Companies
Architects: Dattner Architects, Grimshaw
Delivery: 2012
Source: © David Sundberg, Esto



Springside build-to-rent, Edinburgh, Scotland

This project is the first residential development in Europe to receive the "Fitwel 3 Star Rating" certification, a system that assesses the health, well-being, and productivity of buildings based on 60 characteristics. This certification is issued by the "Center for Active Design" in New York.

The project consists of 476 rental accommodations with access to 4,000 m² of amenity space - including a residents-only gym, bicycle storage area, coworking spaces, indoor and outdoor fitness classes, landscaped gardens and terraces, personal trainers, and on-demand nutrition and wellness experts. To ensure the residents' sleep quality, soundproof walls have been designed with a five-decibel margin above the current construction standards. Moda has partnered with MYNDUP, a technological support system that provides instant access to mental health professionals.



Contracting party: Moda Living
Architects: Robertson Major Projects
Delivery: 2022



Homes open to the outside

To accompany the changes in usage and lifestyles, housing is becoming multifunctional and service-oriented by integrating into the neighbourhood. Housing is increasingly turning outwards, onto "The City Outside" (S. Lavadinho et al., 2022). Several projects have thus built a more intimate link between the constructions and their local context into the design itself.



Marcel Cachin neighbourhood,
Romainville, France

This real estate project consists of 185 residential units for sale, distributed across seven communal buildings. It is part of the restructuring project for the Marcel Cachin neighbourhood, intended to improve the living environment for residents and transform the area into a vibrant city centre. The architects designed private gardens, terraces, and outdoor open-air cabins of 9 m2, in a treehouse style, creating visual escapes that open the compound to the neighbourhood.



Contracting party:
Bouygues Immobilier
Architects: Brenac &
Gonzalez & Associés
Main contractor:
Bouygues Construction
Delivery: 2017
Source: © Sergio Grazia



Greendo Homes,
Takamatsu, Japan

This five-unit apartment complex has been designed to blend in with the surrounding landscape. The complex is built on a mountainside and has roofs designed to blend into the natural landscape. Each unit is slightly offset from the next, so that each has a garden just steps away from the accommodations. Furthermore, almost all parts of the building are in contact with the ground, and the indoor air temperature is kept stable at around 15°C by geothermal energy.



Source: ©Shinkenichiku-sha

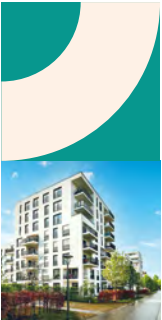
Source: ©Keita Nagata Architectural Element



Contracting party: Keita Nagata
Architectural Element
Architects: Uehara Construction Co.,
Ltd.
Delivery: 2015



Adopting new housing models



Various proposals and measures are emerging to tackle the problems of rising prices in land and real estate, and to make housing more affordable. The task at hand is to meet the needs of the entire population, especially those of the most modest households, also known as the "bottom 40%." (World Bank, 2017; B. Marot et al., 2022.)



IN FIGURES

In France,
2.4 million
households were in need
of social housing by the
end of 2022, compared to
2 million in 2016. (L'Union
sociale pour l'habitat, 2023)

By 2030, about
3 billion
people,
or about 40% of the
world's population, will
need access to adequate
housing, generating a
demand for 96,000 new
affordable and accessible
homes every day.
(WHO, 2021)

Systems for more affordable housing

New solutions are emerging to facilitate access to and maintenance of housing, through various channels, such as legal frameworks, temporary occupancy agreements, cooperative models and/or partnerships.

IN FIGURES

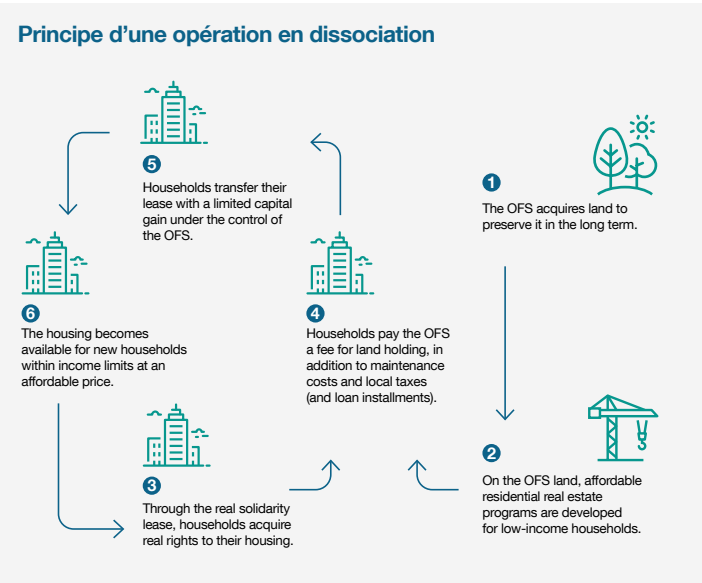
Nearly half of the
global population lives
on less than \$6.85
per day, and a quarter
(approximately
2 billion people)
lives on less than
\$3.65 per day.
(Oxfam France, 2023)

Separating land and buildings to reduce acquisition costs

Inspired by the Community Land Trust (CLT) model in Anglo-Saxon law, these mechanisms are based on the separation of land ownership from building ownership. In these models of affordable homeownership, the properties are individually owned, but their use is constrained by regulations. The property must be occupied as the primary residence, real estate rights may be limited in duration, sale prices are regulated, and any potential capital gains are returned to the third party holding the land in order to limit speculative mechanisms and preserve any received public assistance (B. Marot et al., 2022; B. Vorms, 2020).

MECHANISMS TO PROMOTE HOME OWNERSHIP

Introduced by the Alur law (2014) and the law for growth, activity, and economic equality (2015) in France, the Organismes de Foncier Solidaire (OFS) (Solidarity Land Organisations) and the Bail Réel Solidaire (BRS) (Solidarity Real Lease) aim to contribute to social access to property ownership and make it sustainable. The OFS buys the land and rents it to the household, for a small fee. The selling and resale prices of the housing units are regulated over the long term, which helps forestall real estate speculation.



Source: ©Cerema, 2019



Loire en Scène, Nantes, France

Fourteen social operators have come together to create a *Organisme de Foncier Solidaire (OFS)* (Solidarity Land Organisation). This is a mixed real estate development programme consisting of around a hundred housing units, including 13 units with a BRS. The 13 homes for sale have a price that is 45% lower than that found on the open market.

LONG-TERM LEASING, A SOLUTION FOR ACCESS TO PROPERTY OWNERSHIP

Founded in 2022, the *Société des Nouveaux Propriétaires* (new owners' society) launched a programme entitled *Neoproprio*, allowing buyers to purchase property rights to a property for a maximum duration of 25 years. To enable new homeowners to be mobile, *Neoproprio* contracts guarantee the repurchase of the property at a pre-agreed price (increased if the property's value rises, yet still guaranteed if it drops). Buyers may resell their property at any time; equally, they may opt to pay off the remaining share of full ownership. With this system, the financial burden is reduced by 30 to 35% compared to the conventional way of purchasing real estate.

Rent-to-own, a scheme to facilitate property ownership

Lease-purchase agreements, dubbed "rent-to-own", allow a prospective buyer to purchase a real estate property (with or without personal contribution) after having rented it for a certain period of time, known as the enjoyment period. The enjoyment period is determined in advance in the contract, and the prospective buyer is free to decide at any time whether to purchase the property or not. Rent-to-own thus democratises property ownership by providing a suitable solution for low-income individuals and reducing rental vacancies.

"READY TO FINISH" OPTION, AN ALTERNATIVE TO TRADITIONAL HOUSING

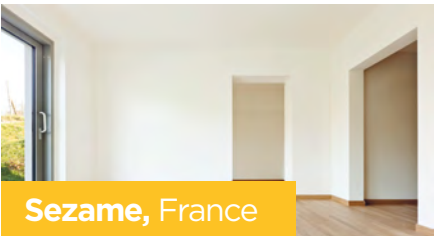
Introduced by the ELAN law in 2018, as part of the provisions relating to the *Vente en l'État Futur d'Achèvement (VEFA)* (Sale in Future State of Completion) of the French Construction and Housing Code (CCH), the system of selling a "ready to finish" property allows the buyer to take on the completion of the interior work. The remaining works may include insulation, electricity, plumbing, heating, flooring and wall coverings, etc. This option makes it possible to save up to 30% on the price of a traditional construction (depending on the builders).

Source: ©Atelier Pascal Gontier



Solidarity housing, Stains, France

Tailor-made housing solutions were designed for this project, based on a study by Action Tank Entreprise et Pauvreté and a participatory approach with the residents of Stains. A multi-partnership approach was launched with the city of Stains, Seine-Saint-Denis housing department, Plaine Commune Développement, the architectural workshop Pascal Gontier, along with Bouygues Bâtiment Île-de-France Habitat Social. Through the commitment of all stakeholders, 59 high-quality housing units (PassivHaus certified buildings) were put on offer, with rents and charges reduced by 15% compared to a conventional project (equivalent to €117 for a 2-bedroom apartment). This operation demonstrates that it is economically feasible to produce high-quality and more sustainable housing at affordable prices.



Sezame, France

Sezame aims to democratise access to property and enable aspiring homeowners to become owners of their own homes through a rent-to-own (lease with option to purchase) model and personalised support. To do this, Sezame examines the customer's financial capacity. The customer then comes back with their preferred housing option, which Sezame purchases through their real estate company at a fixed and agreed-upon price. The client then moves in with the status of a tenant-buyer. At the end of the 36 months, the customer either buys the property at the price guaranteed by Sezame, or chooses not to exercise the purchase option, moves out, and retrieves their savings.

Multi-partner approach to housing

To offer more affordable housing, actors in the real estate sector are committed to working together to reduce the overall cost of operations, by focusing on the specific and prioritised needs of each area (such as the number and types of housing, expected sizes, layout, rental and utility costs, etc.).



Contracting party: Linkcity
Architects: Pascal Gontier architecture cabinet
Main contractor: Bouygues Bâtiment Île-de-France - Habitat Social
Delivery: 2022



Embracing alternative models

Now that land is so scarce, it is becoming increasingly important to optimise space, and this is pushing regional development actors to innovate. In response to these concerns, optimisation solutions have sprung up, such as micro-design and the BIMBY concept. Alternative models are emerging alongside, presenting new approaches to housing access that are based on the reactivation of spaces (disused or abandoned land, wastelands) for limited periods or while awaiting an urban project. These proposals are more aligned with alternative forms of housing design and management, as they seek to provide a better response to the many considerations involved in terms of liveability.

Housing as a new source of income

In economically and socially difficult times, housing emerges as a potential extra source of income. Several solutions have been implemented across various platforms to propose ways to monetise the use of one's place of residence, sparking polemics in the political arena and the media. Airbnb, a platform through which people can rent out their accommodation or a part of their accommodation, is the most well-known and its accommodation offerings are rapidly increasing.

In May 2023, in France, around twenty cities represented by citizen associations announced the creation of a national federation denouncing, among other things, the fact that entire neighbourhoods were becoming empty (R. Tual, 2023) and that the proliferation of accommodations exclusively dedicated to tourists was leading to a worrying scarcity of housing options for long-term residents. Other solutions have been implemented, such as renting all or part of one's home: renting out the cellar, renting out the living room as a coworking space, renting out the property for a film or advertising shoot, sharing the parking space, etc.

IN FIGURES

In France, there were close to **500,000** accommodation listings on Airbnb in 2018 (C. Alet, 2018), and approximately **750,000** in 2023.

"NO FIXED LAND": TEMPORARY OCCUPATION AT HOUSING LEVEL

The "Sans foncier fixe" ("No Fixed Land") initiative applies the concept of temporary occupation to the realm of housing. The approach involves using non-buildable or unplanned land to offer temporary and relocatable housing to households that are awaiting social housing. In Rennes, 22 housing units will be distributed across six sites in 2023, with a maximum occupancy of three years for small households in vulnerable situations.

HYBRID BUILDINGS (BHEP) TO RECONCILE ECOLOGICAL EMERGENCY WITH NEW USES AND POSITIVE FINANCIAL OUTCOMES

BHEP (Bâtiment Hybride à Économie Positive) is a Positive Economy Hybrid Building concept developed by the Bouygues Group, that aims to harness the full potential of buildings in the broadest sense. The concept proposes various ways to add value in ecological, financial, and societal terms, through: sharing underused spaces; optimising usage through connected buildings; productivity gains induced by improved well-being; making use of local and adjoining physical flows to achieve self-sufficiency with regard to water, energy, and heat; trading materials in a spirit of reuse and recycling; and making use of positive externalities such as reducing the urban heat island effect or enhancing biodiversity.

"Micro-design", a new trend

Emerging in densely populated urban areas, micro-housing has been on the rise since 2016, mainly in major cities such as Tokyo, London, Paris, New York, and Hong Kong. This kind of housing tends to be built in modules, so that many new homes can be produced within a limited timeframe. In several Asian countries, like China and Japan, the difficulty of accessing property ownership has led to new approaches, such as the concept of "tiny living." For many people, this has become an everyday reality, as city residents must learn to be resourceful and optimise every square metre of their living space.

THE BIMBY APPROACH, A SOLUTION TO URBAN SPRAWL

In response to the imperative of achieving zero net land take, and to counter the NIMBY (Not in my backyard) movement, many communities are experimenting with the BIMBY (Build in my backyard) approach. This approach aims to densify the city by constructing new housing on available land. In France, around 80 territories launched initiatives like this from 2014 to 2018. It is estimated that "if, every year, one out of a hundred homeowners decided to carry out a BIMBY project, it would result in approximately 190,000 housing units being built without any urban sprawl, equivalent to the current production of detached houses." (B. Le Foll and D. Miet, 2013).





Contracting party:
Monadnock Development
/ NYC Department of
Housing Preservation and
Development
Architects: nArchitects
Delivery: 2016
Source: ©nARCHITECTS

Carmel Place,
New York, USA

55 units located in the Kips Bay district of Manhattan. This pilot project was built in New York City centre with the aim of creating affordable apartments designed for different types of profiles: single individuals, low-income families, etc. The apartments are small in terms of surface area, but this is compensated by a wide range of amenities: a terrace, a living room, an entertainment room, a gym, a concierge service, and even a cleaning service.

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45

In this complex and uncertain world, various factors impact and modify our habits, homes, and ways of living. Housing must adapt to the new realities of our age, marked by great changes in our lifestyles and habits alongside climate change, the scarcity of resources, the erosion of biodiversity, and the aging population. At the same time, the housing sector needs to come up with new economic models and innovative operational structures that push us towards affordable, sustainable, resilient, and inclusive housing.

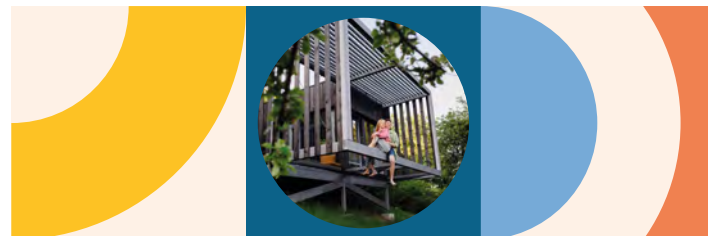
In view of all this, new modes of cooperation must urgently be developed among all stakeholders (public, private, and civil society). To speed up transitions, we must rethink our ways of doing things. And we must adapt, respecting the Earth's limits all the while, so that we may ensure our planet remains habitable.

“

Living in a particular place – that is, in a given space and time – also involves establishing a relationship with that place by attributing qualities to it that allow each individual to identify with it. Living is therefore more than just finding a place to stay: it is about making a place your own, no matter what kind of place it is.

”

D. Sehili et al., 2019



To find out more



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- Faucompré P. (2022). #53 ACTION. *Habitat de demain, les alternatives écologiques avec Buildgreen. (Housing of the future, ecological alternatives with Buildgreen)*. The Big Shift!

Approaches

- "Programme Engagés" (Programmes Committed to the Quality of Housing for the Future), led by the French Ministry responsible for Urban Affairs and Housing and the Ministry of Culture, launched in 2022. *Engagement Qualité Logement (Quality Housing Commitment)* (archi.fr)
- The works of the Conseil National de la Refondation – Logement (National Council for Refoundation - Housing), with three working groups set up to "Empower the French in their housing", "Reconcile France and the French with the production of new housing", and "Make housing the vanguard of the ecological transition". *Logement - Conseil National de la Refondation* (conseil-refondation.fr) (Housing - National Council for Refoundation).

Credits

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■ L'ObSoCo. (2023). L'Observatoire des Usages et des
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