



# giga regio factory

Project presentation &  
feedback of project  
proposal



Winning project of the European Life call for proposals LIFE-2021-CET-BUILDRENO



Co-funded by  
European Union



# LIFE-2021-CET-BUILDRENO : Large-scale rollout of industrialised deep renovation solutions

## Objective:

The aim of this topic is to facilitate a greater market uptake and large-scale rollout of holistic, industrialised deep renovation solutions for buildings, thereby supporting the implementation of the EU Renovation Wave strategy.

Industrial approaches to deep renovation have been shown to result in many benefits including faster, higher quality construction; less disruption to building occupants; less waste and fewer mistakes; reduced costs including over the building's life cycle; better integration of design teams, decision makers, end users and other stakeholders. The objective is to accelerate the rate and depth of energy renovation, and to deliver higher quality renovations with enhanced certainty of energy savings, and a reduced performance gap through industrialised solutions.



# 1. Understand the context : the need for high performance and massive retrofits has never been so strong

## Regulatory issue

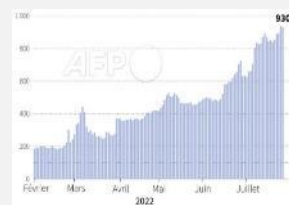
Climat Résilience Law : end of energy stainers (DPE E-F-G)  
Stratégie Nationale Bas Carbone (SNBC)



## Social issue

Rising energy prices and the explosion of fuel poverty

Electricité



Gaz naturel fossile



## Climate issue

Urgent need to decarbonize  
Strong expectations from stakeholders



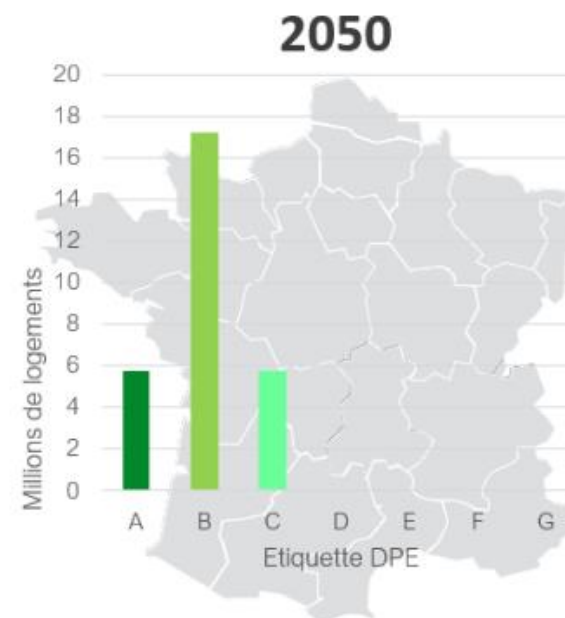
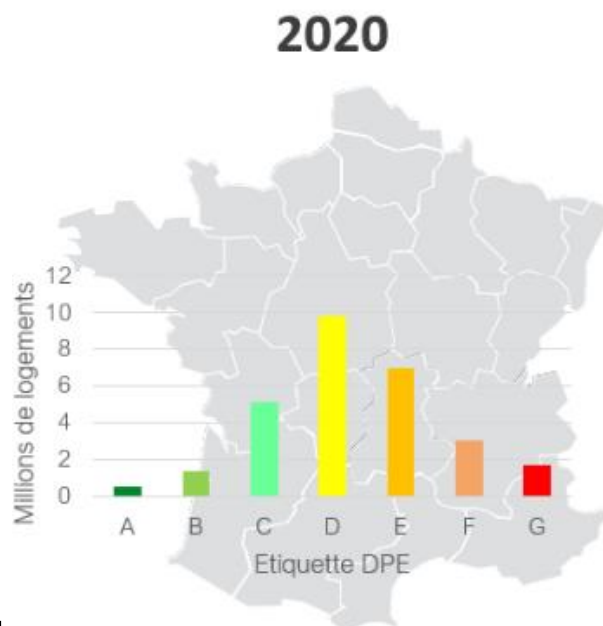
## Supply issue

Independence from fossil gas  
Electrification of uses and network capacity in the short/medium term



For example for France :

We must succeed in this **energy jump...**



... which will require **A/B retrofits** to compensate for those that cannot be taken beyond C

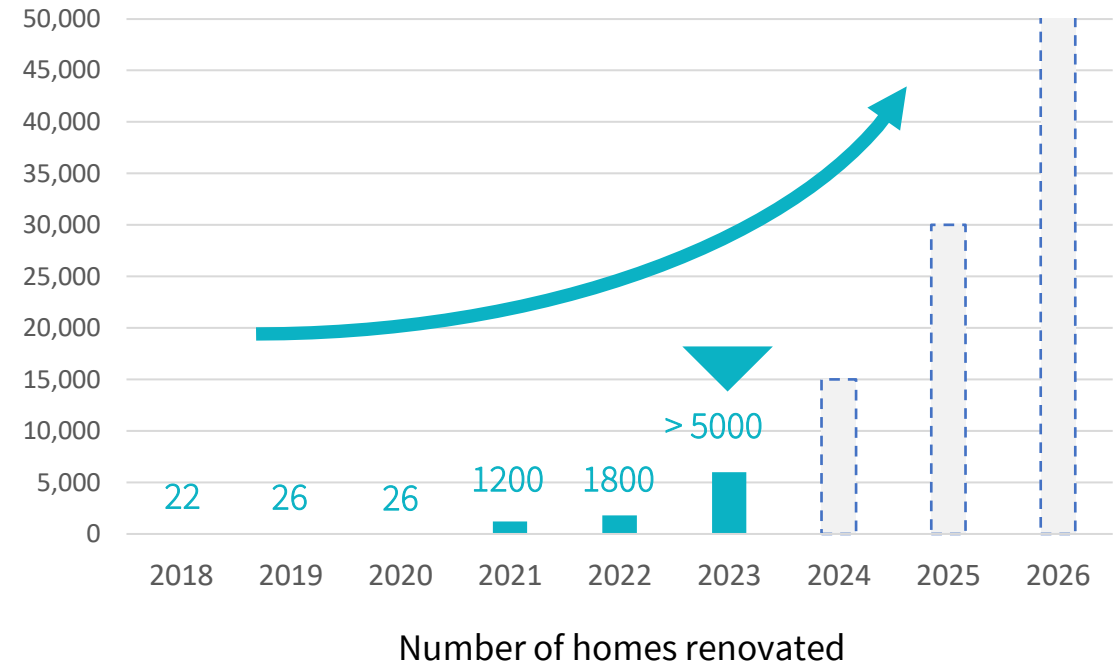
## > 2. Build on past initiatives : after 5 years of EnergieSprong deployment, we now need to move from thousands to millions

energie sprong = Net zero energy  
Long life warranty  
Offsite & industrialised  
Building retrofit



- Activation of a **demand** and a **supply**
- **Resources** made available: specifications, guides, Cost/Quality/Impact Observatory, studies of housing typologies, feedbacks...
- **Innovation competitions** to develop integrated and desirable industrial solutions
- First **pilot projects** (prototypes: ten homes and first schools), then several projects in several regions (dozen to hundred homes)
- **A 1st large series**: MASH collective buy-in-scheme in region Pays de la Loire: from several hundred to a thousand homes

➔ Now, what are the next steps to go from thousands to millions?





# 3. Analyse the market barriers : to imagine what will happen next, we have to progress in understanding costs and typologies

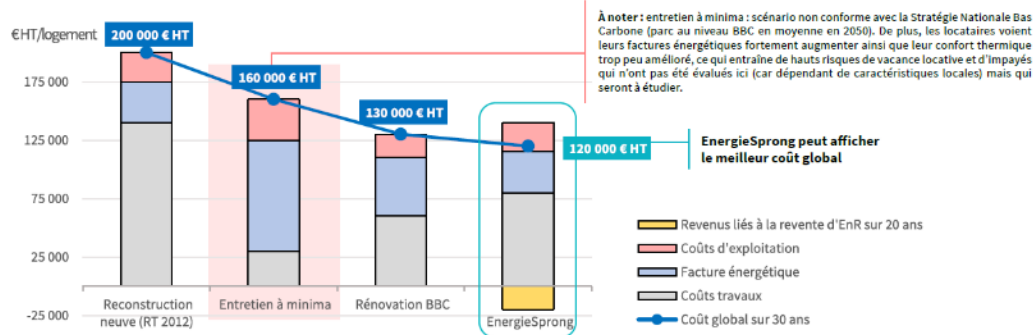
## Cost of operations

**Costs** have come down but are still **too high**, which is an obstacle to achieve the necessary pace



At the same time, there is a need for better **thinking in terms of overall cost**: the Cost/Quality/Impact Observatory has shown that the first EnergieSprong operations presented the best economic balance

Coût global sur 30 ans en individuel - pour la typologie de référence - hors travaux hors EnergieSprong



➔ **Costs have to be reduced but CAPEX will remain high because we have to perform better and faster**

## Homes archetypes



### Maison individuelle

3 typologies de maisons construites entre 1945 et 2000, représentant 60% des consommations énergétiques finales tous usages des maisons individuelles



	Maison isolée sur la parcelle	Maison en bande	Maison semi-isolée
Nombre et % sur le parc social construit entre 1945 et 2000	= 75 000 soit 17%	= 100 000 soit 22%	= 275 000 soit 61%
Nombre et % sur le parc résidentiel construit entre 1945 et 2000	= 7.5 M soit 75%	= 650 000 soit 6%	= 1.9 M soit 19%
Élévation	RDC ou R+1	R-1 généralement	RDC ou R+1
Toiture	Inclinée, double pente	Peu inclinée, double pente	Inclinée, double pente



### Logement collectif

3 typologies de bâtiments construits entre 1945 et 2000, représentant 75% des consommations énergétiques finales tous usages des logements collectifs



	Petit collectif isolé sur la parcelle	Petit collectif en bande	Grand collectif
Nombre et % sur le parc social construit entre 1945 et 2000	= 200 000 soit 7%	= 150 000 soit 5%	= 2.5 M soit 88%
Nombre et % sur le parc résidentiel construit entre 1945 et 2000	= 800 000 soit 14%	= 600 000 soit 10%	= 4.4 M soit 76%
Élévation	< R+4	< R+4	> R+4
Toiture	Toiture terrasse	Toiture terrasse	Toiture terrasse

The choice of **housing types** is key to carrying out industrialized retrofits

➔ **To better understand them** in order to standardize procurement and ambitions, within the framework of grouped and planned approaches in time

➔ **It is not only a question of volumes, the building typologies are also important and better selecting them should help us to lower the costs**

# > 3. Analyse the market barriers : to imagine what will happen next, we have to progress in understanding costs and typologies

## Construction companies & contractors

The sector suffers from its **lack of industrial culture**, which is particularly noticeable among construction companies

Need to get out of the **project logic** to develop the product logic: develop **catalogues of solutions and industrialize pricing**



**Future Factory** has developed a catalogue of off-site solutions for tens of thousands of E=0 homes to be delivered in all regions

## Industrialised solution providers

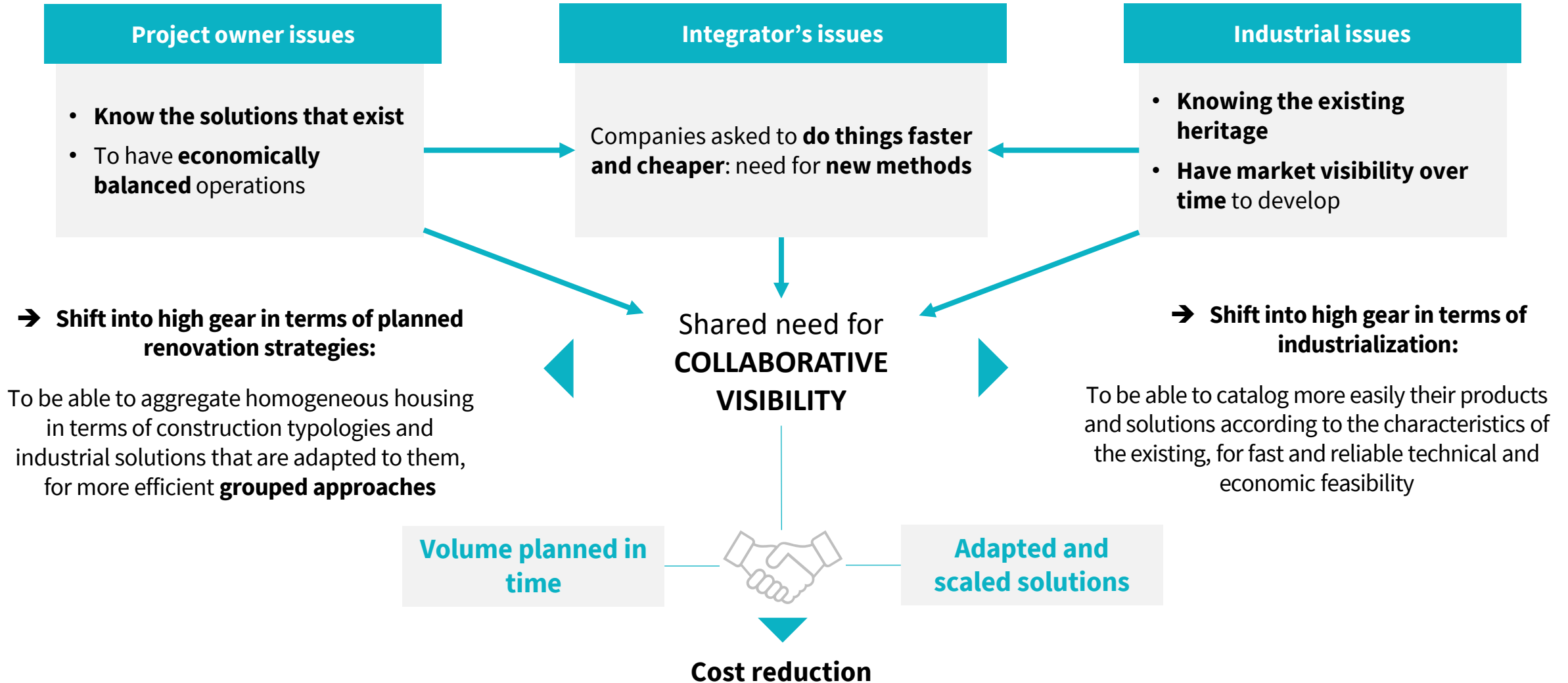
**Solutions exist** and pioneers are **starting out**, but they now need to **scale up** in terms of industrialization: production capacity, digitalization, standardization, etc.

Now, to move from **projects** to **products** adapted to specific typologies to really obtain **Giga Factories** allowing serial renovations



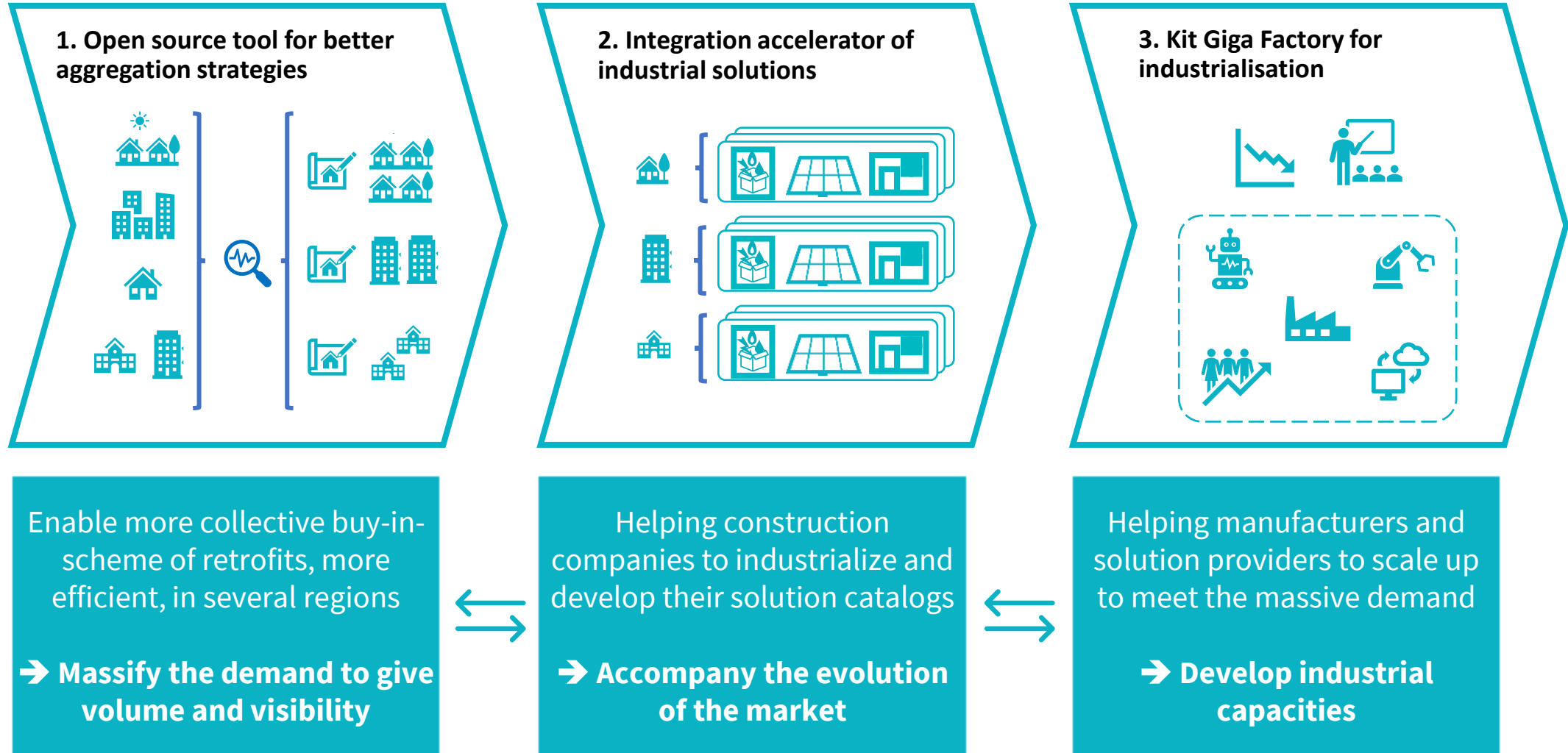
**Product development is the most important to bring down costs and deliver large series: doing off-site for single projects is not enough to solve the problem!**

# > 4. Deduce the needs of market players : a need to work better together to: plan, allow industrial development and thus reduce costs





# 5. Set the project's answer in 3 clear key points: to facilitate this work by helping demand and supply side actors to scale up



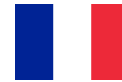




# 6. Set up a consortium able to carry out this project : 12 partners in 4 countries with complementary skills and expertise

8 experts in consulting and social and environmental innovation = Market Development Teams

4 beta testers: supply and demand side partners



This project aims to capitalize on the first industrialized zero-energy renovation operations carried out in France and in Europe, to support scale up

## > Some feedback – on the content

- Understand the challenges and needs of market and carry a **strong vision** and **ambition**, in a **why/what/how** approach
- Provide answers to market barriers: be in a position to facilitate market development, by inventing and deploying **new economic models** that can be **replicated** because they **align the interests** of the stakeholders
- Connecting to existing projects, in order to take advantage of all the **profitable synergies**
- Be inspired by the **projects** and **ways of doing things** in **different European countries** and their feedback, which is always useful to transpose answers/solutions in the context of other European countries
- Well evaluate the **impacts of the project**, to assess the scope of the action
- Take the time to detail the project's actions in terms of **communication** and **dissemination**, to ensure the visibility of the project, a sine qua non condition for its success



## > Some feedback - Organizational

- Start building the **consortium** at the same time as building the **desired answer** to the targeted issue
- Surround yourself with the right **complementary skills**: strategic advice, market development, presence in the territories, network/industry facilitation, communication, professional networks linked to the targeted stakeholders, etc.
- **Divide up the roles** in the drafting of the project proposal
- Draw up a **retro-planning** up to the date of submission of the proposal, including: finalisation of the consortium, finalisation of the project objective and work areas, distribution of tasks, time allocated and budgets, drafting of work packages, etc.
- Take the time to collect **letters of support** from key players/stakeholders in the sectors you wish to work with

# > Any questions ?



**Thank you for  
your attention !**