

The Story Behind the Vision

Background & Experience:

- Architect who built his first design as a sophomore, 1998
- Co-founded a construction cooperative and rebuild 17 homes after an earthquake before graduating, 2003-2004
- Over a decade as CEO of a development company, 2002-2013
- Achieving a successful entrepreneurial exit in 2013
- Spent the last 11 years abroad as an entrepreneur tackling global housing challenges with sustainable solutions.

Who I Am Today:

I'm [Omid](#), and my mission is to revolutionize housing through **Geometry**, **Origami**, and **Circular Design**.

Omid Hajishirmohammadi, Architect, CEO, and Founder - 2gether@4Earth2Mars.com



Circular Architectural Techniques

CATs&DOG 2gether 4 ABC Crisis

- **A**ffordable housing shortage
- **B**iodiversity loss
- **C**limate Crisis

Supporting Partners & Vision

Built on partnerships, including:

- **EIT Climate-KIC:** Early investor in our innovation.
- **Autodesk:** Provided support through their Technology Impact Program.
- **Rabobank:** Providing support by Rabobank Impact Fund.

Your support can be the first step in creating a lasting impact.



Problem, Pain, and Needs

The Construction Sector's Global Impact:

- Contributes **13% of global GDP** and employs **100 million people**.
- Consumes **50% of raw materials**, generates **40% of solid waste**, and accounts for **39% of carbon emissions**.

The Human Crisis:

- **1.1 billion people** live in slums today, and this could rise to **3.3 billion** by 2050—**1 in every 3 people**.

Additional Challenges:

- Among the least **gender-equal industries**.
- High rates of **fatal injuries** for workers.

The Urgency:

To solve these interconnected challenges, we need **radical, scalable innovation now**.



Market Opportunity

The Current State:

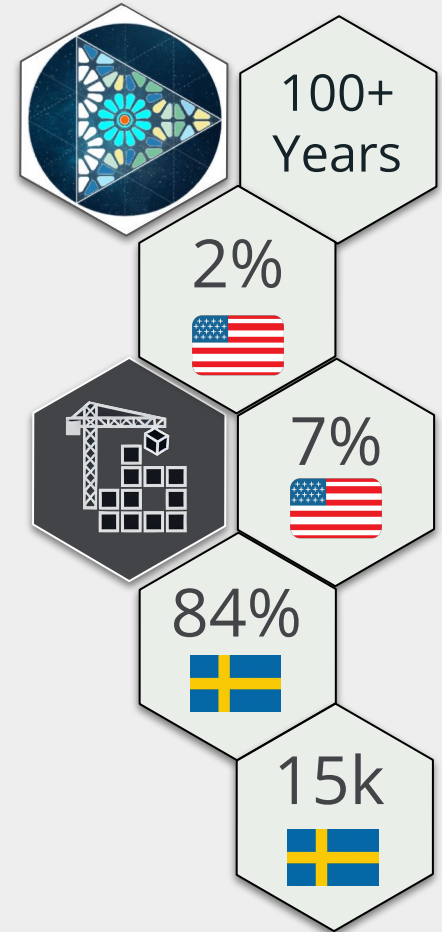
- **Offsite and modular construction** represent just **2%** of the **U.S. market**, despite existing for over a century.
- In **Sweden**, where 84% of homes are factory-built, production totals only **15,000 annually**.

The Demand:

- Globally, we need **30 million homes annually by 2060** to meet demand.

The Opportunity:

- A chance to reduce **gigatonnes of raw material extraction, waste, and emissions**.
- Success lies in combining the advantages of **onsite and offsite manufacturing** for scalable, sustainable solutions.





CATs Overview

What Are CATs?

Circular **Architectural Techniques** (CATs) leverage **Geometry, Origami, and Circular Design** to create scalable and sustainable housing solutions.

Three Key Components:

- **AI-powered Software:** Optimizes designs tailored to different environments.
- **Portable Production Units:** Produces circular bricks and blocks onsite.
- **DIY Construction Systems:** Empowers local communities to build habitats.

Current Focus:

Developing **DIY construction techniques** to ensure accessibility and scalability.



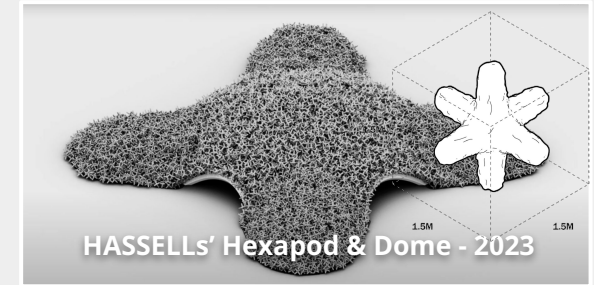
State of the Art

Innovation Through the Ages:

From **ancient geometry** to **modern origami**, construction innovation has evolved globally—from the **U.S.** to **Japan** and **Europe**.

How CATs Stand Out:

- **10x more efficient** and **4x more cost effective** compared to best practices
- The only building technology that is:
 - a. **Configurable**
 - b. **Adaptable**
 - c. **Scalable**



Launching Customers

Secured Customers for Product Development Stages:

- **Rabobank:**
 - a. Support through the **Impact Fund**, and potential additional support with **Innovation Loan**, and **direct client loans**.
- **BlueCity Rotterdam:**
 - a. Partnering for **TRL6-7** development and testing.
- **NL Space Campus:**
 - a. Hosting **TRL 7-8 prototypes** to validate scalability in real-world conditions.
- **Habitat for Humanity:**
 - a. A potential partner for achieving **TRL9 scalability** and global deployment.



Affordable Housing Shortage

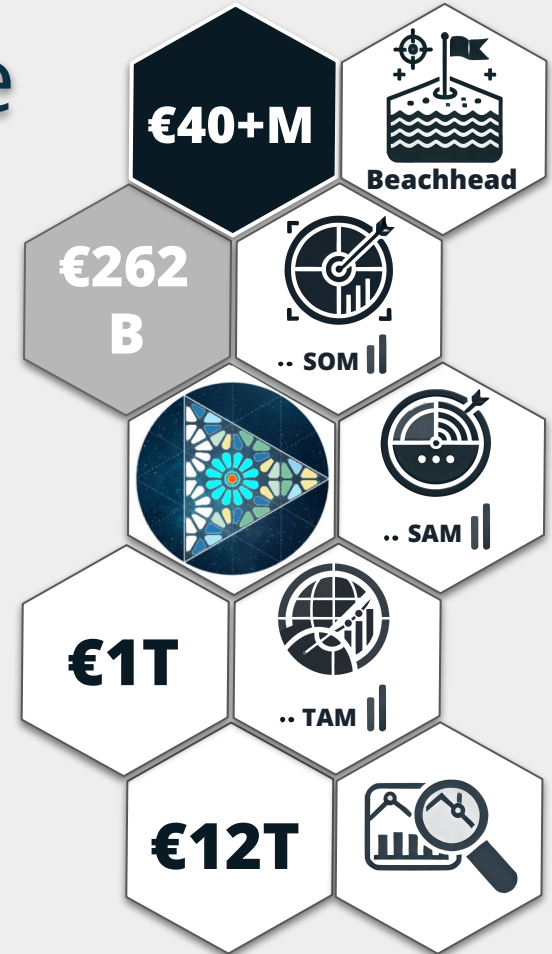
Growth Potential

The Opportunity:

- Initial projects valued at over **€40 million**.
- Potential to scale to **hundreds of billions** in the coming years.

What's Next:

In the following slides, we'll outline our **step-by-step plan** to achieve this growth and unlock the full potential of CATs.



Initial Projects – Step-by-Step Plan

LunarNomad Yurt (Noordwijk):

- Build a **25-square-meter home** as a prototype.
- Funded by €300,000, including support from **Rabobank's Impact Fund**.

Circular BlueMoon Village (Rotterdam):

- Construct **144 LunarNomad Yurts** at **BlueCity Rotterdam**.
- Launch the first **Circular BlueMoon Village** to showcase scalability.

Analog Circular BlueMoon Village (Noordwijk):

- Establish the **Analog Village** to test CATs in real-world and extreme conditions.



Portable Production Units (PPUs)

Next Steps:

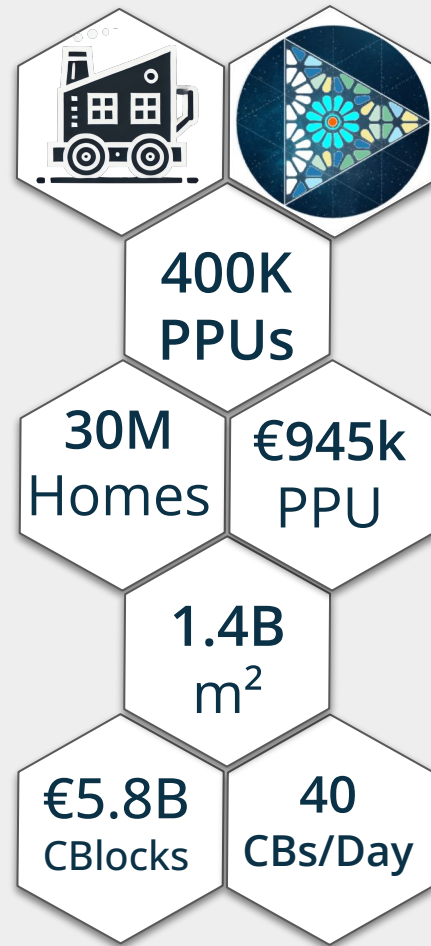
- Develop **Portable Production Units (PPUs)** through licensing partnerships with major stakeholders.
- Collaborate with industry leaders to scale production and deployment.

Revenue Potential:

- Each PPU generates **€1 million in annual revenue**.
- Meeting global housing demand requires **400,000 units** to build **30 million homes annually**.

Production Capacity:

- To build **1.4 billion square meters of homes**, we need **5.8 billion Circular Bio-composite Blocks (CBc-Blocks)**.
- Each PPU produces **40 CBc-Blocks per day**, enabling localized, scalable production.



Licensing and Revenue

Scaling Through Licensing:

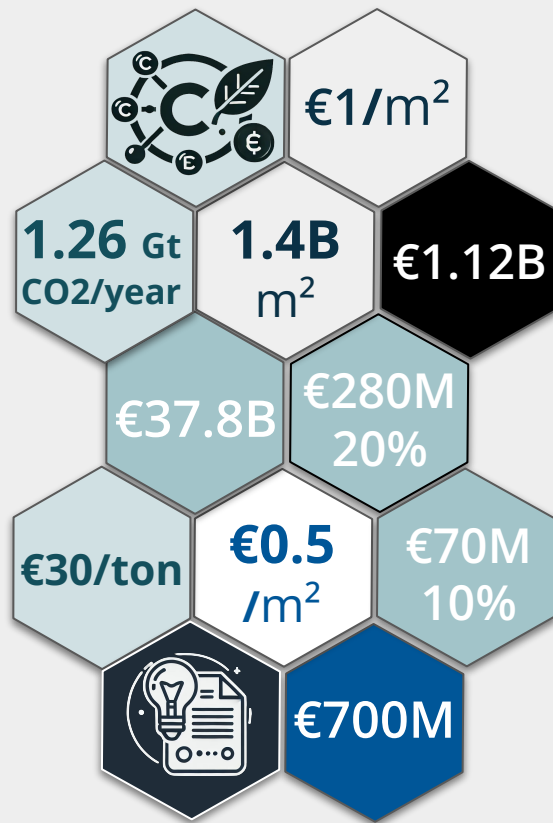
- Partnering with **Autodesk** to license AI-powered software for global scalability.
- Collaborating with **Habitat for Humanity** to deploy DIY construction systems worldwide.

Revenue Potential:

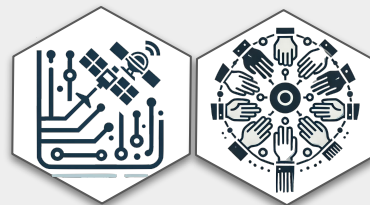
- Multiple licensing streams combined with potential carbon credit income.
- Projected to generate **billions annually**, while delivering transformative social impact.

The Vision:

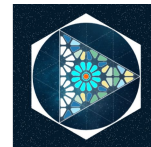
Together, we can create a future where sustainable, scalable housing is accessible to all.



AUTODESK
Technology Impact



2GETHER
4 EARTH
2 MARS





AUTODESK
Technology Impact

Rabobank



Our Strategy:

Radical collaboration for system change through disruptive innovation.

Significant Achievements:

Funding and Strategic Support:

- Supported by organizations in the **United States, Europe, and Japan.**
- EIT Climate-KIC:** Investor through a SAFE agreement.
- Rabobank's Impact Fund** and **RVO's SIB 2024** support scaling and innovation.

Collaborative Support:

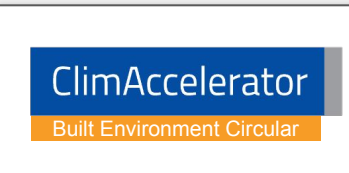
- Impact Forecast** and **LEVEL(s)** assist with impact measurement and software support.

Early Progress

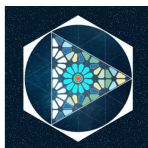
- [CBc-Bricks](#) and [CT-Habitats](#) registered at **BOIP**.
- Initiative published on:
 - [ESA's OSIP](#)
 - European Commission InvestEU** portal
 - [INPO-20243664](#): Circular BlueMoon Village
 - [INPO-20233372](#): Circular Tiny Habitats
 - [JETRO](#) | **Japan External Trade Organization**
 - [EEN](#) | **Enterprise Europe Network**

Building a Strong Team:

- Preparing to grow with a **CFO** and **CTO**, supported by **Masters of Scale**.



**2GETHER
4 EARTH
2 MARS**



**MASTERS OF
SCALE**

**Impact
Forecast**

IMPEL
2021 Cohort



Solving a Global Puzzle:

Bringing disruptive innovation to the conservative construction sector feels like solving a jigsaw puzzle aboard the ISS—thousands of floating pieces waiting to fit together.

Our Journey:

- Supported by global partners, we've never felt alone.
- Every step has been meticulously planned over the past **22 years**.
- We have a clear roadmap for the next **11 years** to scale and transform the industry.

The Call to Action:

Will we get your **thumbs up today** to push the first piece of this domino?

