



GLOBAL  
CENTER ON  
ADAPTATION

**GLOBAL KNOWLEDGE EXCHANGE EVENT**

# FLOATING AND RESILIENT DEVELOPMENT

**BREAKOUT ROOM 3**

## ARCHITECTURAL DESIGN

“Architectural Design on the water – an attractive, sustainable, resilient and affordable style of living”

**CHAIR:**



**Rosalie Akerman**  
CEO

<https://www.linkedin.com/company/2650374/admin/>

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<https://nets23d.com/>

**INVITEES:**

**BARTELS & VEDDER**

Interdisciplinair Ingenieurs & Consultancybureau

**Jelle Vedder**  
CEO

<https://www.linkedin.com/in/jelle-vedder-8962531/?originalSubdomain=nl>

<https://www.bartelsvedder.nl/?lang=en>

**Architect**  
**Marine Designer, Educator**

**Łukasz Piątek**

<https://www.linkedin.com/in/%C5%82ukasz-pi%C4%85tek-31a207183/>

**Architect Ph.D.**  
**LEED Green Associate**

**Shahryar Habibi**

<https://www.linkedin.com/in/shahryar-habibi-48379a33/>

## PRESENTATION AND DISCUSSION ORDER

1. Dr inż. arch. Łukasz Piątek, Kilson Design & Warsaw UT - flood resilience of floating homes, sustainable design and floating homes, and new ages design principles for floating homes.
2. Shahryar Habibi, Pennsylvania State University
3. Rosalie Akerman, Nets 23D – Rethinking design for circularity, for the new generation of globally connected and mobile working professionals, providing options to support resiliency in an unpredictable future.
4. Jelle Vedder – Bartels & Vedder- samples and experiences developing sustainable and resilient floating structures, sharing some lessons learned about the important floating-design considerations for practical and attractive living.

## DISCUSSION QUESTIONS

1. What are some floating home design features and considerations that would increase the likeliness that you would purchase/move to a floating home? As a group let's discuss to find a consensus on the most important design elements or considerations for middle-income floating homes.
1. How does the specific location within a city, local policy and local water conditions affect floating home design? Share about local conditions and policy that would influence in your region.
1. How can practitioners and policymakers/decision-makers work together to ensure that climate resilient housing design considers the local socio-cultural dynamics, population dynamics, and global housing demand trends?

*We can take more questions on the forum and answer them on the webpage later:*

*WAC Portal: <https://communities.adaptationexchange.org/forum/floating-and-resilient-development-knowledge-exchange-2022>*

# WHAT WE HAD LONG AGO ...



**NO WASTED RESOURCES**

**BUILD WITH LOCAL MATERIALS:**  
USING LOCAL GENERATIONAL SKILLS



**SMALL ADAPTABLE COMMUNITIES**

**ARTIZAN:**  
CRAFTED QUALITY PRODUCTS THAT COULD BE RE-USED



**LOCAL CLIMATE CONDITIONS ARE PREDICTABLE AND UNDERSTOOD**

**LIFE IS FOR LIVING:**  
SLOWER PACE OF LIFE

**VILLAGE SPECIALIST:**  
LOCAL EXPERT IN THE COMMUNITY

# WHAT WE NEED NOW...



**USE WASTED  
RESOURCES AS  
MATERIALS**

**DESIGN FOR CIRCULARITY:  
COMBINE WASTE WITH TECH**



**AFORDABLE CIRCULAR MODULAR  
MANUFACTURING USING 'NEW' TECH**

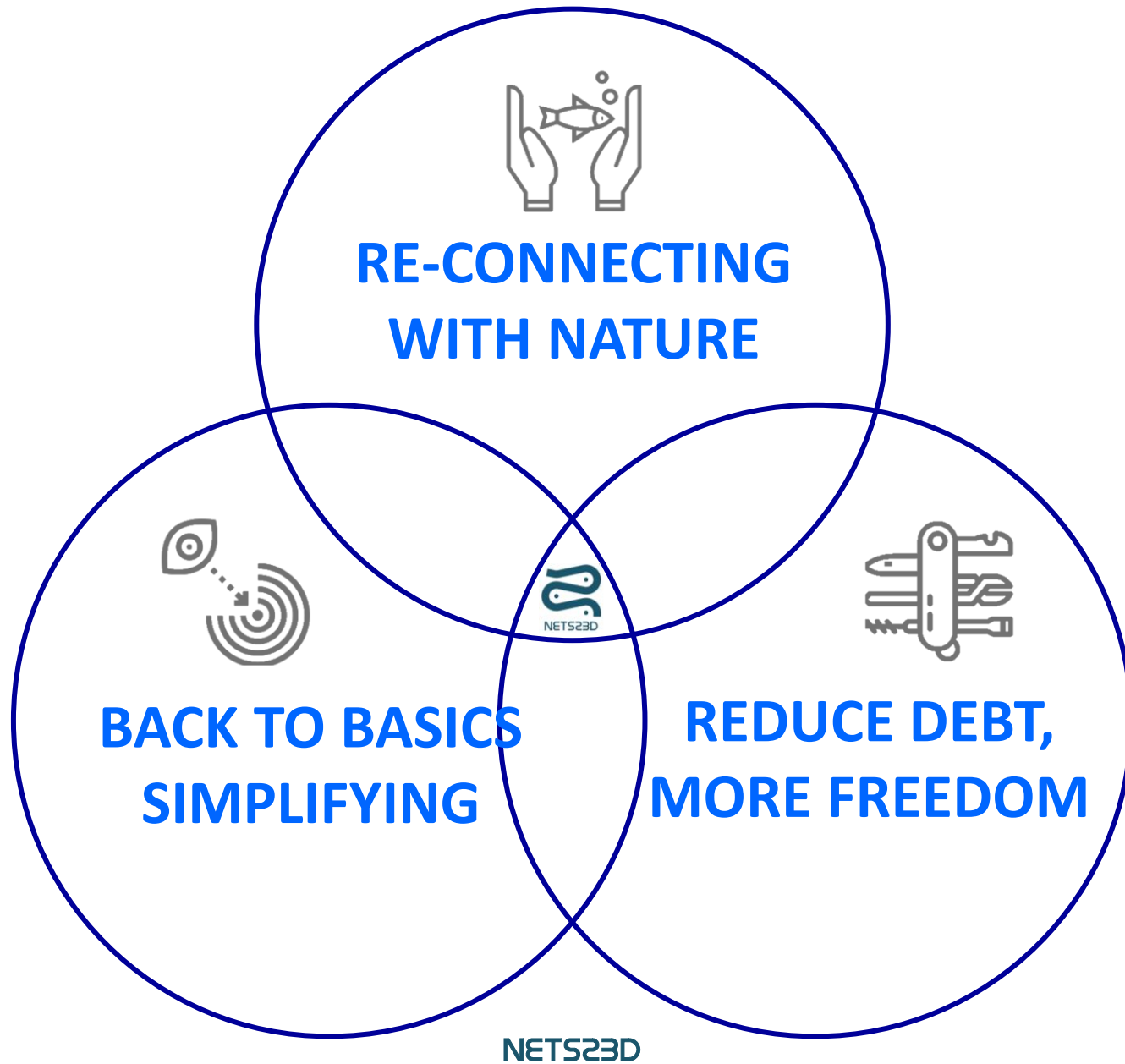
**BLUE ECONOMY:  
TRACEABLE QUALITY  
SUSTAINABLE PRODUCTS**



**SMALL FLOATING COMUNITIES MOVE WITH RISING  
WATER LEVELS & ARE ADAPTABLE & RESILIENT**

**EXPERIENCE VS THING:  
CONSCIOUS CONSUMERISM**

**MOVE AROUND:  
GLOBAL OPTIONS, ADAPTABLE**



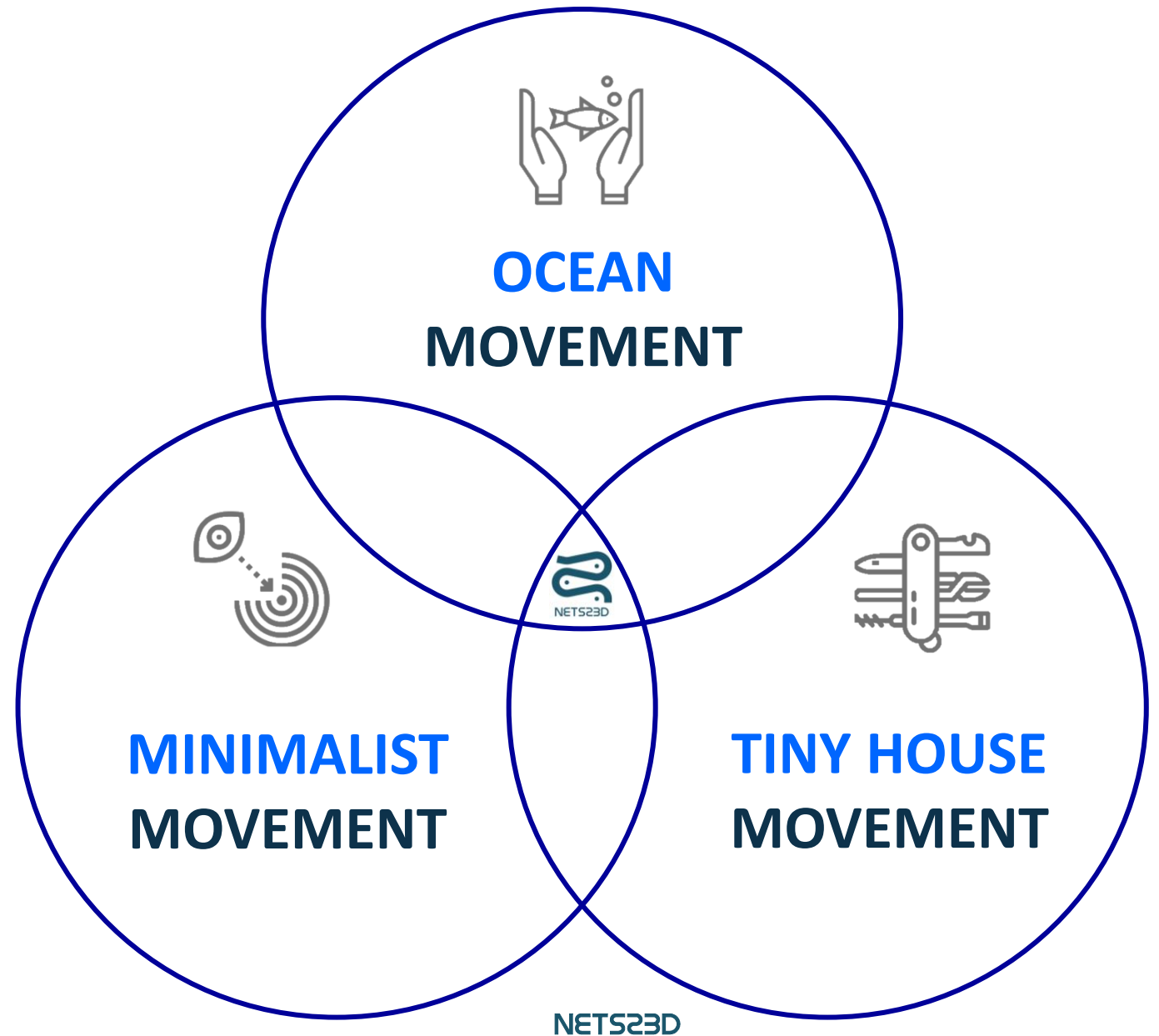
## **3 TRENDS POST-PANDEMIC**

are towards a need for  
Self-sustainability:

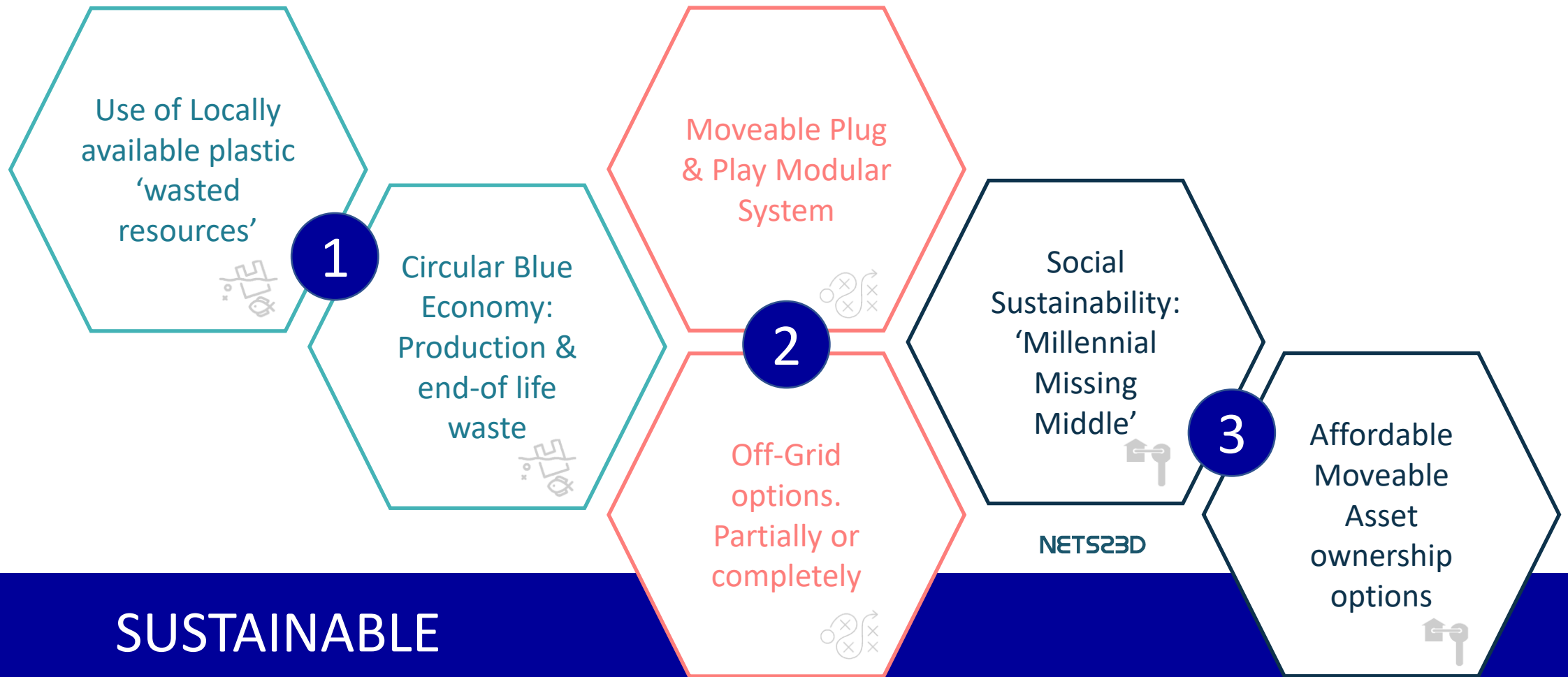
- ✓ Connecting with nature
- ✓ Reducing debt
- ✓ 'Back-to-basics'  
Simplifying

## ***3 GROWING MOVEMENTS***

- ✓ Blue Economy,  
Biodiversity conservation
- ✓ Home Ownership,  
Adaptability, Resilience
- ✓ Wasting less resources  
e.g. Material, Space,  
Financial, Social





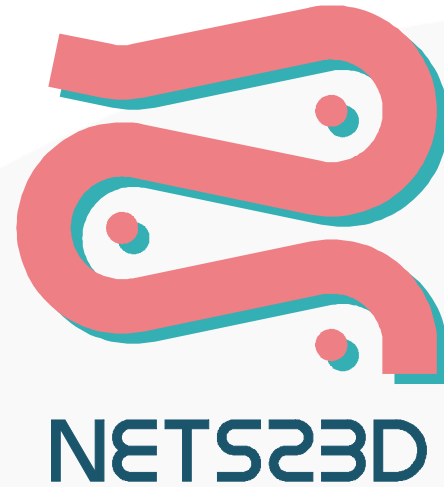


# SUSTAINABLE FLOATING & RESILIENT STRUCTURES

**1. MATERIAL**

**2. MODULAR**

**3. FINANCE**



**NETS23D is a Circular Blue-Economy Manufacturing company** producing a large-scale 3D printed moveable floating system, using end-of-season fishing nets which we convert into technical compounds for ourselves and the moulding and 3D printing industries.



We are helping solve two big problems:

- (1) Globally humanity is wasteful of resources and*
- (2) Lacking in adequate shelter*

**WASTED  
RESOURCES**

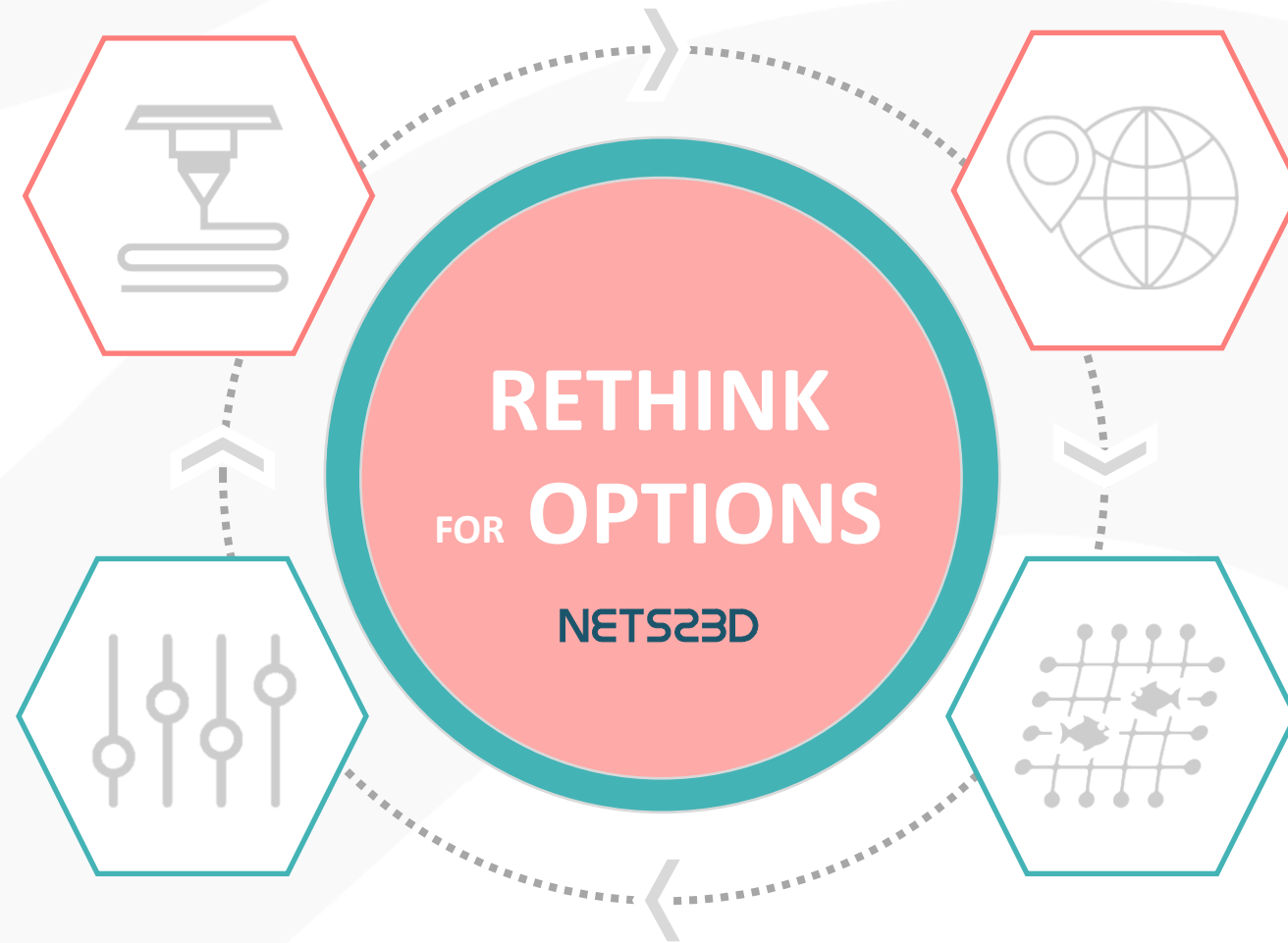
**RETHINK**

**INADEQUATE  
SHELTER**

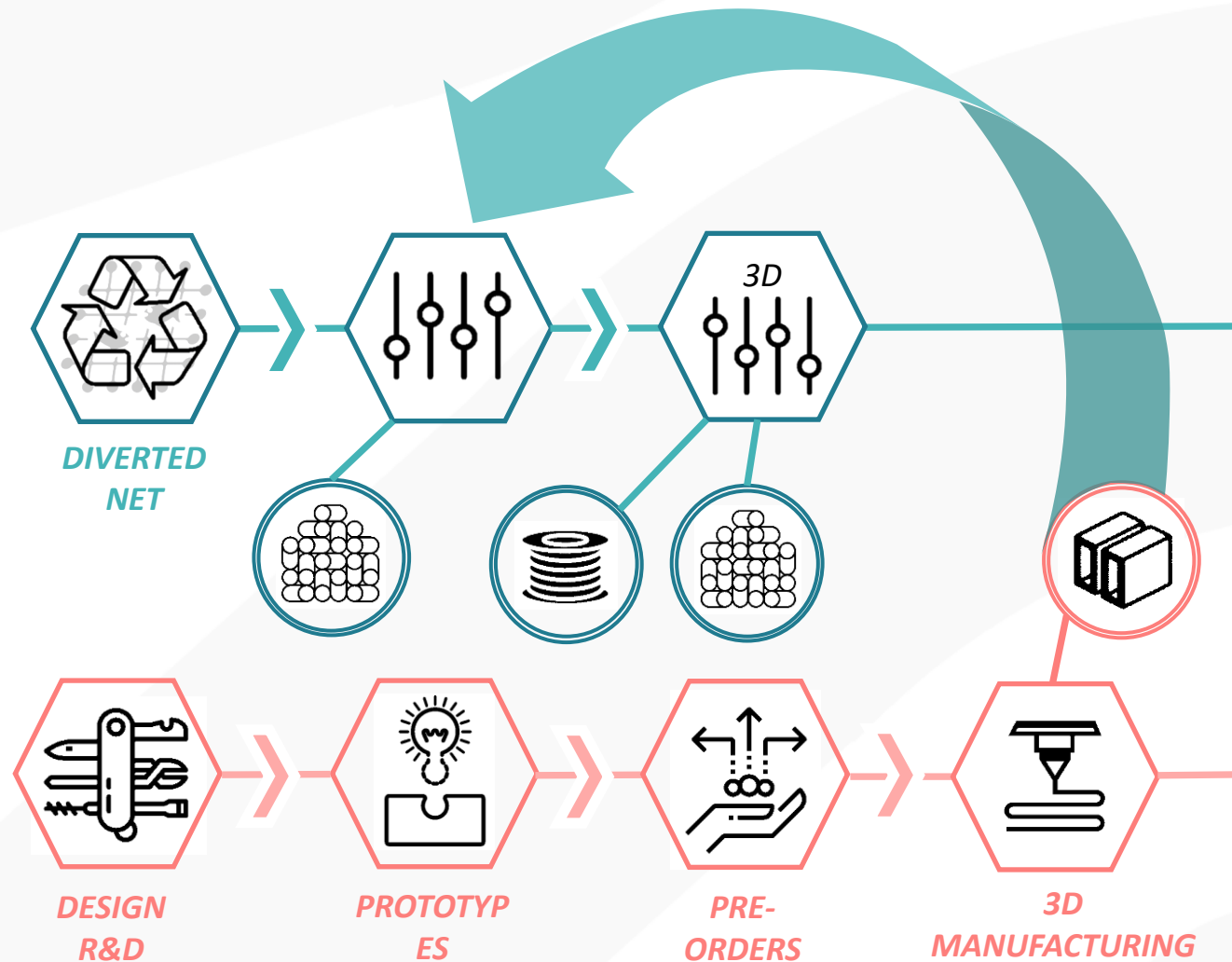
**650K  
CREATURES**

[oliveridleyproject.org/what-are-ghost-nets/ghost-fishing-cycle-of-devastation/](https://oliveridleyproject.org/what-are-ghost-nets/ghost-fishing-cycle-of-devastation/)  
<https://www.nrdc.org/sites/default/files/mammals-foreign-fisheries-report.pdf>

**NETS23D**



*Our Modular system is a RETHINK of what housing needs to be - for this and future generations.*



**Nets23D Compounded Thermoplastic products are CIRCULAR.**

At end-of-life our modules can be

(1) **Refurbished, or**

(2) **Granulated and re-compounded**, for many 'future lives' to print modules & other large-scale products on an ongoing basis.



**NET DRAW  
AT SCALE**

***Nets23D Compounds will help blue and boost the entire large-scale Additive Manufacturing industry.***

**NETS23D**

# EXPERIENCED SKILLED FOUNDERS



**ROSALIE AKERMAN**  
CO-FOUNDER & CEO

- Architecture
- Ecopreneur
- Management consulting
- Design Expertise
- Experienced Exec



**GARETH AKERMAN**  
CO-FOUNDER & COO

- Mechanical Engineer
- Manufacturing
- Compounding Expertise
- Experienced Exec

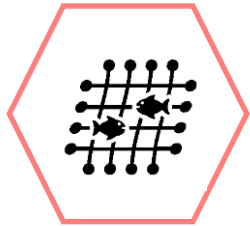
**Gareth and Rosalie are a proven founding team, Start-up entrepreneurs who can also scale; Technical and creative disruptive thinkers.**

*Previously started and successfully scaled a circular manufacturing business, supplying big international clients with quality technical products.*

*We diverted about 400 Tons of polymer from landfill monthly, offered sheltered employment, and ran community programs.*

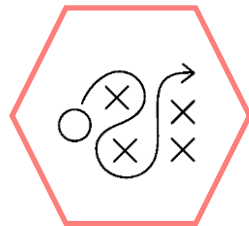
**We know how to build a CIRCULAR, ethically directed, profitable business.**

NETS23D embodies our skills and passion.



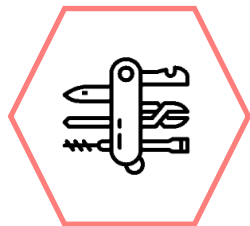
### COMPOUNDED FISHING NETS

Diverts end-of-life commercial HDPE fishing nets from discard at sea or dumping on land.



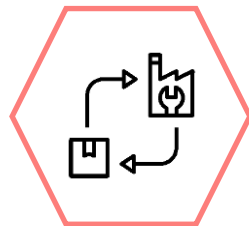
### FLEXIBILITY

Easy modular addition and subtraction to keep up with change as you do.  
Exterior adaptation for easy modification and expression / differentiation.



### GLOBALY ACCESSIBLE

Shipped cost-effectively in standard shipping containers, no need for special transport. To international maritime codes used globally.



### ZERO WASTE & RE-USE

Recyclable Large-Scale 3D printed 'Net Compound' structure will be reground and re-used in future Prints.  
Program to repair and refurbish old modules.



### RENT-TO-OWN & FRACTIONAL

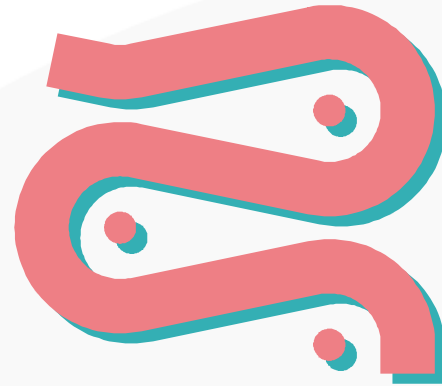
Long-term Moveable asset finance options, that bridge the gap for mid-income young professionals.  
Ease of strategic investment by Developers.



### LIGHT WEIGHT AND MOVEABLE

Assembly without costly machinery  
A 'LIGHT-TOUCH' way to sustainably live and relocate.  
Solution for rising sea levels.





**NETS23D**

To set up an online meeting please contact

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<https://www.linkedin.com/in/rosalie-akerman-33306336/>

<http://NETS23D.com>