FORWARD-Seminar on Scientific Excellence in Research & Innovation
Rethinking 'Smart' Islands Towards Self-Aware and Cooperative Hybrid Islands
26. – 27. October 2021, Funchal, Madeira

In the context of the EU-funded project FORWARD (https://forward-h2020.eu), its partners ARDITI (https://www.arditi.pt/) and University of Madeira (https://www.uma.pt/en/) organized a 2-Day-Seminar on Scientific Excellence in Research & Innovation on rethinking the current view of 'smart' islands.

From left to right: Elsa Fernandes (Vice-Rector, University of Madeira), Norbert Streitz (Scientific Director, Smart Future Initiative), Christine Riedmann-Streitz (Managing Director, MarkenFactory), Rui Caldeira (President, ARDITI)

On the first day, there were presentations of ARDITI by Dr. Rui Caldeira (President), Lucio Quintal on the FORWARD project and Paulo Abreu on the planned Digital Innovation Hub (DIH). With his keynote "*Rethinking 'Smart' Islands Towards Self-Aware and Cooperative Hybrid Islands*", Dr. Dr. Norbert Streitz (Scientific Director of the Smart Future Initiative, https://www.smart-future.net) introduced the overall framework and identified the key parameters for Self-Aware, Cooperative, Hybrid Islands.

He started out with the Quintuple Helix and the relationship between Innovation Economies and the availability of creative environments. A central part was the critical reflection of what Streitz calls the 'Smart-Everything Paradigm', a mainly technology-driven development encountered with smart cars, smart cities, and smart islands. As a counter proposal, he argued for a human-centered design approach for moving beyond 'smart-only' cities towards humane, sociable, and cooperative cities, based on the properties of self-aware hybrid cities, and applying the lessons learned from smart cities to smart islands. Smartness is redefined as 'self-awareness', i.e., how much the city/island knows about itself and how it communicates collected data and their aggregations to its citizens and the city/island administration. Motivating citizens to get engaged, be part of the local community, allowing for data collection and to contribute data actively cannot be valued highly enough. It requires participatory design and keeping citizens in the loop and to foster co-provision, co-creation, and co-exploitation. Viewing the city/island and its citizens as 'mutual cooperation partners' and developing a common purpose is the basis for a 'Citizen/Islanders <=> City/Island Cooperation Contract', which regulates the necessary design trade-offs, enables meeting the needs and providing appropriate services. In his keynote, Streitz proposed to view islands as 'hybrid' islands on at least three dimensions (real vs. virtual, sea vs. land, urban vs. rural) and proposed several actions to exploit the seams and transitions between them making Madeira "the place to be". Streitz concluded his keynote with "Eight Claims for Future Developments".

Eight Claims for Future Developments

1) The more the computer disappears and becomes invisible, the more it obscures transparency and determines our lives.

2) It's all there in the environment => The world around us, the city/the island is the ambient "interface", requiring new hybrid affordances and hybrid seams.

3) Need to redefine the "Smart Everything" Paradigm and create a counter proposal to 'smart-only'.

4) Beyond "smart-only' spaces are designed as "Human-Technology-Environment Cooperation Spaces" making people smarter.

5) People-oriented design, people-empowering smartness: "Keeping the human in the loop and in control".

6) Privacy will become a commodity and is endangered, unless we do something against current developments: privacy by design, ambient privacy, data ownership (assuring it, will be a USP for European industry).

7) Need for common purpose of all stakeholders for Humane, Sociable, and Cooperative Hybrid, Self-aware Cities/Islands.

8) Establishing a "Citizen / Islanders ⇔ Cooperative City/Island Contract" mapping the necessary design trade-offs.
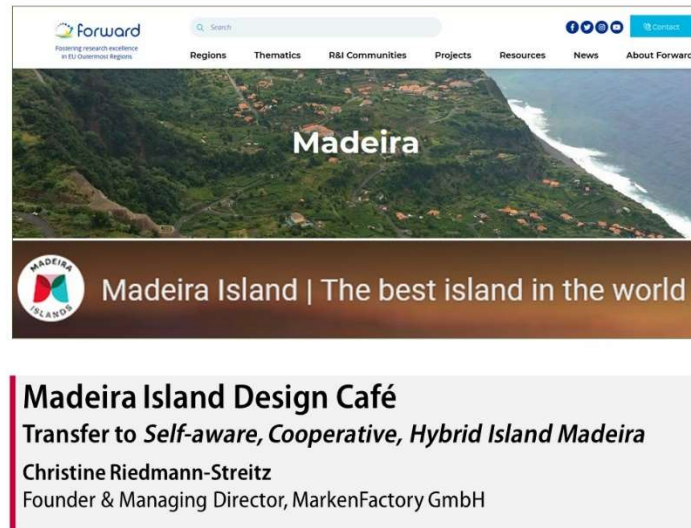
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The following Q&A session showed active engagement of the very knowledgeable audience and provided further input for the Island Design Café on the following day.

For the second day of the seminar, Christine Riedmann-Streitz (Managing Director of MarkenFactory, https://markenfactory.com/) developed a concept for the Madeira Island Design Café facilitating the transformation of Madeira into a Self-aware, Cooperative, Hybrid Island. She moderated the seminar with researchers and local stakeholders from Madeira. The objective was to start the transformation, identify specific issues and strategies for Madeira and develop the Madeira Road Map for Transformation and Implementation. The overall orientation for this in-depth work is conveyed by the vision of "Madeira as a Lighthouse of Research & Innovation (R&I)", created by Streitz and Riedmann-Streitz.
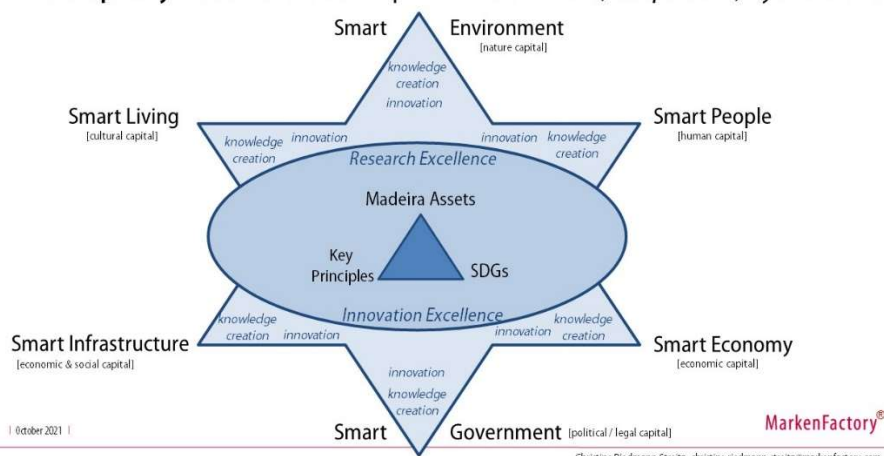
Riedmann-Streitz presented two frames guiding the transformation: Frame 1 "Assets of Madeira" and Frame 2 "UN Sustainability Development Goals (SDGs)". In the following 'Big Talk'-Group-Method, participants identified the "Big questions that move us to make Madeira a Lighthouse of R&I".

 The 'Big Talk' resulted in the following four most relevant topics for Madeira:
1. Areas in which **Madeira** should become a **Testbed for a Self-aware Island** to foster the successful implementation of new, innovative ideas and approaches.
2. **Island as a Service** with key elements and regulations (**Islanders <=> Cooperative Island Contract)**.
3. **Madeira** transforms into a **Lighthouse of R&I** by exploiting the unique combinations of being a **Hybrid Island** on the following dimensions: real vs. virtual, sea vs. land, urban vs. rural.
4. **Madeira as a pilot-zone in the ocean** testing new ideas for **environmental issues**.

In the setting of the World-Café-Method participants elaborated these topics in-depth on how to make the transformation happen. The results were presented & discussed for further actions using the Participatory Design-Methods, the model on How-to-start-a-movement, and the Concept-of-Nudging helping people to exercise better self-control (all three introduced and presented with background knowledge and applications by Riedmann-Streitz). The elaborated projects of the groups, some of them with Lighthouse-function, the implementation strategies and nudges became part of the "Madeira Road Map for

Transformation & Implementation". The participants will follow up on these results and continue the journey to make Madeira the Lighthouse for Research & Innovation.

Group picture of the participants of the Island Design Café on the second day.