Creative Collaborations for the Future

Drivers for interdisciplinary and cross-sectoral innovations in Europe



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Authors Elisabeth Oberndorfer Wolfgang Gumpelmaier-Mach

Design Michael Holzer

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DRIVING CHANGE IN TIMES OF UNCERTAINTY

How can we bring creative industries and non-creative industries closer together? This is one of the challenges we have been tackling over the past years, and it has become the main focus of an initiative started by the Interreg Central Europe organisation: COCO4CCI - which stands for "Collaboration Collider for Cultural and Creative Industries". With a focus on Advanced Manufacturing, the programme's aim is to build a collider network of organisations that complement each other with knowledge. Subsequently, innovation processes and methods like design thinking can be applied in companies and organisations throughout all different industries, and the creative and cultural sector can help drive the change needed for the future.

We wanted to build our conference "Creative collaborations for the future" around these principles. We searched for key players and experts all across Europe that are willing to share their insights, concepts and learnings. When putting together the programme, we drafted key questions that should build the backbone of the conference:

- How might we engage/mobilise people in projects and in times of uncertainty?
- How do you use the know-how and experience of a diverse group of people to co-create?
- How might we design inclusive and open rooms/spaces?
- How might we improve the quality of our living experience?
- How might we turn experiments into sustainable concepts/models?
- How might we illustrate the value of creative work?
- How might we focus on the simplicity, functionality, and circularity of materials without compromising the need for comfort and attractiveness in our daily lives?

During this process we realized how much the principles of the New European Bauhaus initiative by the European Commission feeds into the core of COCO4CCI. The goal to bring creatives, artists, business people and engineers together to work on a brighter, more sustainable future is the common denominator in both programmes. And our selected speakers share these beliefs and our mission as well. They share their insights to cross-domain collaboration, cross innovation hubs, designing safe creative spaces and building innovative architecture. And they demonstrate how collaboration between creatives and the manufacturing sector do not only impact the economy, but also culture and society.

Ultimately, COCO4CCI wants to establish sustainable change and policy recommendations to build a beneficial ecosystem for CCI and cross-sectoral strategies as well as research and evaluation. So, while these talks and presentations are only a snapshot of what is happening in Europe right now, it also shows how far the movement has grown and will continue to grow.

COCO4CCI

- \rightarrow 12 partners from 6 countries
- ightarrow Building networks between the creative sector and Advanced Manufacturing
- \rightarrow Project duration: April 2019 to March 2022
- ightarrow Project included workshops, design sprints, conferences, surveys and papers

WWW.INTERREG-CENTRAL.EU/COCO4CCI

Michela Magas

Placing people and culture at the center of cross-domain collaboration

Can creative collaboration bring the EU nations closer to accomplishing the green deal? Apparently, it is worth a try. As the European Commission announced their "New European Bauhaus" initiative in 2020, President Ursula von der Leyen voiced her mission: "The New European Bauhaus is a project of hope to explore how we live better together after the pandemic. It is about matching sustainability with style, to bring the European Green Deal closer to people's minds and homes. We need all creative minds: designers, artists, scientists, architects and citizens to make the New European Bauhaus a success."

When Ursula von der Leyen announced the New European Bauhaus initiative, it was just an idea. Michela Magas has played a key role in realising this idea over the past two years - and even before that. In 2012, Magas founded MTF Labs, an organisation that connects experts in various fields through innovation labs. Through her work, Magas caught the attention of European politics and has been appointed as innovation advisor to the European Commission. And she is also part of the High Level Round Table for the New European Bauhaus. In this role, Magas helps grassroots communities to participate in the New European Bauhaus programme.

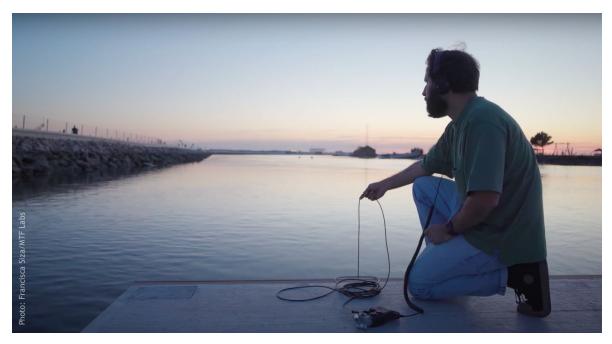
Feeding policy from the ground up

In her talk about Cross-Domain-Collaboration, Magas explained how this form of collaboration is at the heart of the New European Bauhaus. "And it's also about feeding policy from the ground up." So Magas sees her role in the High Level Round Table to foster the ideation process from the bottom-up to eventually impacting society. Her approach differs from those of most industrial collaboration projects: "We place people and culture at the centre of Cross-Domain-Collaboration.

In her work as facilitator of innovation, Magas recognised that there is a disconnect between engineers, scientists and culture. So, she started connecting scientists with artists. To give an example on how tech and art can converge, Magas mentions DJ Arthro. The Swedish artist is disabled and was in search of a music setup that would allow him to perform. So, he joined forces with MTF Labs and created his own setup called Spaceship. "It dawned on me that the tools we invent determine whether a person is able or disabled", Magas says. The collaboration with engineers helped DJ Arthro create a business out of his musical career.

New European Bauhaus built on sustainability

Magas says she wants to challenge what we can do with technologies and has put an emphasis on Artificial Intelligence over the years, putting experts and artists at the forefront of the projects. And to tie it back to the New European Bauhaus initiative and its aim to achieve the green deal, she refers to the MTF Labs' project "Just Ocean" which took place in Aveiro, Portugal, in 2021: 50 experts of 26 countries were assembled in person and eight global satellites joined online for a week of creative brainstorming, co-creation and response to grand challenges. The collaboration lab spawned 13 new projects and a six-part symphony about the environment. A filmmaker also produced a documentary about the event. "The process involved immersing yourself with nature, this is about addressing challenges hands-on."



Michela Magas' MTF Labs organized a multi-day event in Aveiro, Portugal titled "Just Ocean", to converge nature, technology and art.

The principles of the New European Bauhaus are based on sustainability, Magas explains: "When we first started to map out our values, we discovered a strong line of justice and this is where we built our starting point." Based on their values, the High Level Round Table created a concept paper that outlines the New European Bauhaus mission and approach to connecting industries and changing the environment. According to the paper, "a culture- and design-led approach is an important strategy for the transition to a low carbon, regenerative and just society." In terms of outcome, the New European Bauhaus team strongly believes in learning by doing. Magas sees collaborative and experimental labs as a useful tool because they allow and encourage participants to explore holistic sustainable systems spanning multiple dimensions: environmental, social, cultural, economic and political.

Compared to the traditional Industry 4.0 mindset, New European Bauhaus takes a "more than human", inclusive of all ecosystems perspective, which according to Magas is a result of the first projects within the programme. It's an indicator that the grassroots feeding policy concept might be working. "Placing culture and creativity at the centre of decision-making has sped up how we understand what paradigms we need to tackle", Magas reports. "According to the New European Bauhaus we believe in radical inclusion that doesn't put people in categories", rather industries should focus on where people converge and how technologies can be used for the greater good: "The future of work is driven by mission."

Transforming industries and societies

"We want to inject a spark in regions across Europe and for everyone to be involved in this prototyping on the ground", Michaela Magas says. New European Bauhaus is all about the people and collaboration on the ground: "If every person involved can take one step forward, we'll see a big transformation in society."

As the New European Bauhaus is intended as a movement, Magas encourages everyone to participate: "Grassroots organisations can take action and don't need to wait for support from the government." The way is to go from the ground up and then present best practices of the initiative to the local governments, which have had great responses so far, according to Magas. Once the grassroots projects reach the attention of politics, they can inform and feed policy. And since the labs conduct high-quality research and prototyping, these policies are then evidence-based.

While the first round of the New European Bauhaus programme was focussed on non-profit-organisations, Magas says there will be the opportunity for other organisations to participate in the future. To award collaborative projects of all EU countries, the New European Bauhaus Prize was initiated. One of Magas' concerns is that some regions will be left out and not be motivated enough to participate, so the High Level Round Table is working hard to include all regions.

In terms of more current events, participants of the New European Bauhaus initiative are looking into ways of helping Ukraine during the war. A way of support might be architects designing shelters for refugees.

Michela Magas says that there was a lot of scepticism about the New European Bauhaus approach in the beginning: "People were saying that there was no authority, but we didn't want to determine anything upfront. But now the New European Bauhaus has turned into a new way of working, it's galvanising forces."





Michela Magas

Michela Magas is a designer who bridges science and art, design and technology, and academic research and industry. She is Chair of the Industry Commons Foundation, innovation advisor to the European Commission and the G7 leaders, Member of President von der Leyen's High Level Round Table for the New European Bauhaus, and member of the Advisory Board of CERN IdeaSquare (ISAB-G). Michela is the Founder of Stockholm-based MTF Labs and has over the past 10 years been feeding policy directly from grassroots experimentation with its global community of 8000 contributors from the arts and sciences. In 2017 she was awarded European Woman Innovator of the Year and in 2016 she was presented with an Innovation Luminary Award for Creative Innovation by the European Commission and Intel Labs Europe.

www.michelamagas.com www.linkedin.com/in/michelamagas/



Jurij Krpan

How Art Thinking can help foresee the future A few years ago, design thinking paved the way for innovation culture in corporate environments. But Jurij Krpan takes this idea to the next level: The artistic director of the Kersnikova Institute Ljubljana strongly believes that art thinking can change the way the industrial sector approaches change. Over the years, his role has led him to the intersection of creativity and technology. His art institute is also the home for a biotechnological laboratory called Biotehna: "It's a challenge to bring creatives into the field of innovation", Krpan says about his experience over the years. To tackle this challenge, the artistic director has come up with a model that helps bringing these worlds closer together.

The space between innovation and invention

Krpan believes that artists can bring new ways to seeing things: "It's an unorthodox approach and this is sometimes the entry point when we are approaching different industries and sectors. We are talking about innovation and invention but we also have to talk about what comes in-between." The in-between refers to the road from an idea to actual execution. Companies have a tendency to try to move fast, Krpan says: "When we invite ourselves into a collaboration with a company or community, we usually encounter a very spontaneous approach to innovation. Usually, there are the owners, engineers and marketing people, but often these people cannot envision the future."

Thus, Krpan tries to persuade them to try a different approach. The necessary step to go from innovation to invention is an abstraction, the intellectual ability that consists of separating an element from its context. Here is where art thinking comes in. "There's a big difference between art thinking and art making. It's understanding how the artist works, what is the level of cognition in order to understand what an artist is saying." Advocates of this method say that art thinking consists of sensitivity, contemplation, critical thinking, history, politics and economics among other things. For Krpan, artists can build the connection between humans and machines, which is of course a critical part of the innovation process: "We are not talking about painters but mostly artists that are humanising various aspects of humans and machines, robotics or telecommunications. Lately, we focus very much on how we should understand the connection of humans with other things, how to go beyond this and understand the world we are living in."

Once Krpan and his team have persuaded a company to bring artists into the innovation process, they focus on how to connect the challenges in front of them. "A lot of the times, the problem a company thinks they have is not the real problem", he says. Oftentimes, there are bigger challenges and issues than what the internal team sees at first. This is where art thinking has proven to be a valuable asset: "Being able to abstract things, being able to go out of bias and enclosed bias that is usually coming from the company. They know their products, technologies and customers, their approach is enclosed in their deep knowledge and we are trying to bring them out of this bias." An abstraction is very difficult to employ because there are many different professions thrown together.



Kons Platforma, one of Jurij Krpan's projects, aims to educate adults and young people about new technologies and innovation

Innovation catalysts as facilitators of change

"In order to mitigate these different pieces of knowledge in the room, we invented a role that we call innovation catalyst. They should know how artists and designers are thinking and how engineers are approaching problem-solving." The innovation catalyst is a role that Krpan and his team not only had to invent, they have also developed a prototype of a curriculum to teach this approach and to teach how to translate all these different languages. Innovation catalysts should not only connect the team but also challenge and foster radical creativity through speculative design and art thinking. This ties back to Krpan's belief in the impact of art: "Artists are not only thinking when they are doing artworks - it's about experiences. We experience much more than we understand, so artists bring that aspect in."

To realise the concept of art thinking and innovation catalysts, Krpan uses so-called challenge labs that go through the stages of innovation, prototyping, and application. "This is a situation where we are trying to bring in all stakeholders and create a safe environment where they can lose themselves. You cannot order innovation, there's no button you can press. The only thing you can do is create an environment where innovation can happen", Krpan explains. When you bring in people from "the real world", they are driven by deadlines. So the artists and innovation catalysts persuade them to dive into an imaginary world. "It's very difficult to foresee radical innovation. But this foresight can inform them to make better decisions tomorrow. If they agree that there is a goal to reach, they can move slowly in that direction. Informing their behaviour and future development is crucial." Once clients are open to foresee radical ideas, the prototyping becomes easier and is usually done by the engineers within the lab.

Collaboration between the creative sector and other industries

According to Krpan, the innovation program should last a couple of days and should not only be a one-day hackathon. But his plans with his labs go further than just supporting companies in their innovation journey: "We are having a bottom-up push from the creative sector towards industries to innovate and there's a need in the industrial sector for radical innovation so we have to fill that space in-between." In the future, Krpan wants to provide labs for children and adults to empower them to experiment with new technologies. "You cannot change the environment through only one EU project. We embarked on a journey and we expect our first real results in five to eight years."

A key factor in all of Krpan's initiatives is sustainability: "Unfortunately, sustainability is not very present in the companies we work with, they are often very short sighted and see it as not really adoptable for them." This validates the need for radical change, as it should help corporations to envision this change for them: "They have to do it because it's not only for them, but for everyone."



"It's very difficult to foresee radical innovation. But this foresight can help make better decisions tomorrow."



Jurij Krpan

Jurij Krpan is Artistic Director of Kersnikova Institute Ljubljana, focusing on contemporary investigative arts that are thematizing the impact of new technologies on individuals and society as a whole. Being an advocate of the culturalisation of technology that is emancipating and empowering people to use contemporary technology with sovereignty, he is leading the establishment of Lab for speculative innovation, where arts can help to achieve speculative/foreseeing/radical social and product innovation by involving art-thinking and design-thinking into the innovation process facilitated by innovation catalysts.

https://www.linkedin.com/in/jurij-krpan-31385833/

Agnieszka Polkowska

Solving logical problems with emotional spaces

"When was the last time you had an in-between moment where magic happened?", Agnieszka Polkowska wondered when she tried to answer the question how inclusive and open spaces for collaboration can be designed. Polkowska runs her own speculative design agency, Trendspot, and for her the answer was clear: "That moment between the main dish and dessert." But how can you establish these seemingly coincidental moments of creativity and brainstorming on a larger scale?

Creating in-between moments of transformation

"First, we need to understand what space is. Space is energy first which later with added structures becomes physical", Polkoswka says. So in that sense, space is much more about creating and sharing experiences than we would think at first. Polkowska cites the Krebs' Cyce of Creativity: "There's a holistic interrelation between creatives, scientists, industries. And this creative cycle needs a few ingredients like common language and understanding." Her approach is to design the in-between: "Liminality is the in-between moments, the space between an inciting incident in a story and the protagonist's resolution. It is often a period of discomfort, of waiting, and of transformation."

Polkowska recalls another food experience that shaped her approach to creating this liminality. Before the pandemic, she traveled to Peru to visit the experimental restaurant Mil Centro. The restaurant describes itself as an institution for culinary experience. Polkowska was inspired by the connection between culinary innovation, high altitude environment, the ancient history of Moray ruins and interdisciplinary studies. "It's the kind of real-life experience that leaves you inspired. So I asked myself how I could relate this personal experience to my profession."

Reimaging design exhibitions

"It has to happen on a human scale before it can happen on a larger scale", Polkowska says. Subsequently, she decided to focus on thinking and doing instead of theory and practice. "We decided to find ways to destabilise design exhibitions and to find co-creators outside of the design bubble." One of her methods is the "Follow the object" approach, which examines the human behaviour around an object: "And this analysis can lead discussions about the future."



To make creative spaces more inviting to people outside the bubble, Agnieszka Polkowska created and open studio concept.

To reimagine design exhibitions, Polkowska chose the format of a summer school that invited all kinds of people to join: "We decided that the process will be co-creative, every person enters on the same level with different perspectives, experience and skillset and everyone is valuable." The programme had people come together in what Polkowska refers to as decentralised tribes. Since the summer school took place during the pandemic, the space was indeed not physical but remote and the tribes consisted of three to four people who connected with other teams via digital communication channels. Polkowska was part of a central tribe that brought everyone together: "We asked questions and created a dialogue, and the teams cross-analysed and exchanged remarks."

This model of organisation made Polkowska come up with the metaphor of a river: "There's a central stream and then there are many tributaries that all work together." But this concept also bears challenges: "We need to encourage people to join the process. Everyone is a possible tester and feedback-giver, so we need to make the process comprehensible." Therefore, creating an open studio concept was another way to ensure inclusivity. "Our solution is a private workspace that becomes a public but intimate one." It is an event where artists open their studios to the public, but create a personal environment with a "come sit with us" vibe. "It's not a traditional exhibition but an intimate hub to build relations." The individual stands of the open studio were interrelated with each other and invited visitors to interact and simply ask questions to make the design process more approachable.

The collaborative and dialogue-driven strategy proved to be fruitful, as Polkowska reports the event spawned a project that later turned into a startup: "Moja is an app for intimate health prevention that has already established a company and is now working on a business model."

Emotions first, logic second

"It is important to build a situation that is empowering people and to tackle challenges on a personal level", Polkowska says. She thinks about the culture and work approach before thinking about the location, and lists collaboration and companionship as the main factors in successful design spaces: "Let's act like a tribe, which is now more important than ever."

Polkowska's focus on emotional atmospheres stems from her belief that emotions come before logic: "We are used to asking logical questions and expect logical answers. But things aren't always logical, so we have to tackle that." She tries to tap into the emotions of a room, which means she is looking for expectations and reasons people are there: "Once we've gone past that, we come up with a logical approach. A creative process with only one logical approach doesn't work."

The type of space also influences the results of a collaborative process: "It influences everything, it's basically quantum theory." So, when working with decentralised teams, she advises to keep in mind that these are only emotional spaces. "To facilitate an emotional space, you have to be open and not judgemental. Everyone comes with different experiences and perspectives, even trauma. So be open to everything that comes with the creative process, even if it doesn't make sense in the beginning."



Agnieszka Polkowska



"A creative process with only one logical approach doesn't work."

Agnieszka Polkowska is a speculative designer, design curator and educator with a Ph.D. in design. She is a founder of a TRENDSPOT future research & speculative design studio as well as co-founder of Touching Points studio which was established to transfer ideas between different sectors and implementing them into strategic actions. She actively works in design and futures education as Assistant professor at Stettin Art Academy running speculative & subversive design studios as well as carries out interdisciplinary courses in trends and foresight at Total Design Management postgraduate studies at Warsaw University of Technology. Agnieszka is an expert and consultant of Dutch think-tank MARE Amsterdam and cooperates with such institutions as the Institute of Industrial Design, Pomeranian Science and Technology Park Gdynia, Łódź Design Festival. She had the pleasure to contribute and worked on research and implementation projects for such clients as Samsung, MTV, Play, Vogue Poland, Ceramika Paradyż, Abriga, Biżuteria YES, eobuwie.pl, Decathlon as well as many others. She is also a member of the expert board of the must have competition at the Łódź Design Festival.

www.agnieszkapolkowska.eu www.trendspot.pl www.touchingpoints.eu www.linkedin.com/in/agnieszka-polkowska-04225639/

Raffaela Seitz

How to go from idea to implementation with cross innovation Creative collaborations are the focus of the COCO4CCI initiative, but how can you actually foster creative collaboration in other sectors like Advanced Manufacturing? The key is to create a space where it can actually happen, Raffaela Seitz says. Seitz runs the Cross Innovation Hub which is part of the Hamburg Kreativgesellschaft and as such, she and her colleagues bring together creatives and corporates. As a public agency funded by the European Regional Development Fund (ERDF), it supports various industries in the field of innovation, knowledge and space and financing.

Creatives as catalysts for change

"The Cross Innovation Hub is a learning project and platform to explore and open up new innovation potentials in the collaboration with creatives and agents from other industries", Seitz explains and adds: "How we approach innovation is that collaboration always takes place at eye level."

The Cross Innovation Hub was launched in 2016 and as co-lead, Seitz sees a very vital role for the public institution: "We see ourselves as bridge builders, as translators. We organise spaces of collaboration and make sure that these are also spaces of trust and safety." Beyond facilitating spaces, the Cross Innovation Hub also offers support in legal frameworks and finances. Its programmes range from workshops and events to long-term labs that last for several weeks or months.

The Hub's approach is to think of creatives as catalysts for change and innovation: "They are very good at changing perspectives, highly adaptable and naturally move along different disciplines. They really find challenges that match their potential, have a visionary strive and are able to imagine what others might not be able to imagine", Seitz says about letting creatives take the lead. What's important for the Cross Innovation Hub is that all parties are result-open but solution-oriented. "But the creatives and the Hub also need to make sure that companies trust that kind of process and open up for such a collaboration."

Start with a challenge

So how does the Cross Innovation Hub realise its events? Seitz refers to the Cross Innovation Lab dedicated to the focus on climate that took place from February to June 2021. "As part of this Lab, we organised seven challenges with 22 companies, 27 creatives and 9 scientists." Not everyone joined every step of the process, as Seitz explains: Each project started with a challenge. In the beginning, teams were split up, then led by creatives through every stage of the process from research, synthesis to ideation and realisation. The last stage is called "Eject" and this is where a solution for the challenge is found.



Hamburg's Cross Innovation Hub encourages companies and corporates to let creatives lead the innovation process.

But how do you turn experiments into sustainable concepts? To go even more into practice, Cross Innovation Hub co-lead Raffaela Seitz introduced the case study of logistics company Rhenus. The challenge was how Rhenus could meet green deal targets and become a more sustainable company - in particular: "How might we make warehouse knowledge and data accessible in order to motivate employees and managers and give them incentives to implement solutions for CO2 reduction?"

Not-so-radical innovation

Three creatives led the Rhenus project and conducted field research at the Rhenus warehouses. "One of their main insights was that there was no one-fits-all solution possible because some warehouses are rented and some are owned. Another finding was that there's a lot of knowledge internally already, but other warehouses are not accessing it." According to Seitz, the research process was successful because the creatives were allowed to ask any questions and received open communication. The aforementioned collaboration at eye level was in place and creatives had lots of space to come up with solutions. Since the team recognised a competitive culture within the company, they chose a gamification approach as a proposed solution and identified two personas as target groups within the company.

The concept that the Cross Innovation Hub came up with is an online portal that informs employees about the green status of each warehouse. The platform allows users to learn what actions were taken to make the warehouse operations more sustainable and information about every category accessible. In terms of gamification, employees can collect so-called medals for supporting other warehouse teams. "Even though this is not a radical innovation, it is a concept that helps reduce carbon emission and can be easily integrated into the existing system of Rhenus", Seitz says. While this online portal is not live yet, it is in the process of implementation at the company.

Commitment to collaboration and change

Since its inception six years ago, the Cross Innovation Hub has worked with 159 partners to develop new products, tackle challenges and find solutions for operational problems. As part of their mission, the Hub focuses on cross innovation areas such as service innovation, change of work culture, digital transformation and new business models. Seitz wants to make sure that the actual collaboration and innovation is taken seriously by all stakeholders: "Our focus is on the early period of innovation and there's the stretch that we need to make towards to realisation. The commitment we need is materialised in a contract and we try to make clear that there's so much potential behind." The project leaders also determine who needs to be part of the project at what stage of each process. According to Seitz, the CEOs in smaller companies are involved whereas in bigger companies mostly middle-management employees are part of the innovation lab.

Another important factor in convincing companies to be open for cross innovation is expectation management: "We have reflection talks throughout where we are moderators talking to the leads of the companies so we can sense where they stand and we learn if we need to correct them and make sure that they are staying on board."

"Our public opening moment and public closing moment is where we try to include people in higher positions. This way, we make sure that projects don't eject after the lab. But it's a learning process", Seitz says.





"How we approach innovation is that collaboration always takes place at eye level."

Raffaela Seitz

Raffaela Seitz dedicates herself to the conception and organisation of cross-sector offers in the Cross Innovation Hub. As a studied cultural scientist (Leuphana University of Lüneburg) and art historian (University College London) with economic study background (University of Mannheim, Leuphana University of Lüneburg, London School of Economics and Political Science), she moves and acts along the intersection of art, culture, science and business. Before Raffaela Seitz joined the team of Hamburg Kreativ Gesellschaft, she worked in strategic innovation consulting and trend research. She deeply believes that it takes swarm creativity and intelligence to successfully face business and societal challenges.

www.linkedin.com/in/raffaela-seitz-823125a7

Arthur Mamou-Mani

Less ruins, more communities

You might think Burning Man is just a bunch of nerds and weirdos celebrating in the desert. But for Arthur Mamou-Mani it's a way of living: "It's the city of the future", he explained. In the past few years, the French architect has become a vital member of the Burning Man community. The one week long event takes place in the Black Rock Desert of Nevada every year and is not only known for partying but also futuristic sculptures. Arthur Mamou-Mani is one of their creators.

Holistic architecture

"We think of Burning Man as the city of the future, and we think of cities beyond just living", Mamou-Mani says. But what does that have to do with architecture? "Our goal is to connect things and create more holistic architecture." Experiences like Burning Man are the perfect playground for building communities of the future.

In his talk at the COCO4CCI conference, Mamou-Mani gave an overview of Eco-Parametric Architecture, a discipline that studies the history of algorithmic and parametric design, how it enables the collaborative development of holistic systems and reproduces natural processes for environmental design. The London-based architect has focussed his work on circular design and fabrication and the future of living and working.

Reducing the fear of experimentation

To circle back on Burning Man, Mamou-Mani quotes its founder Larry Harvey: "Communities are not produced by sentiment or mere goodwill. They grow out of a shared struggle. Our situation in the desert is an incubator for the community." That shared struggle will create pockets of initiatives that eventually will change the world, Mamou-Mani explains. And these assumptions bring us to creative collaboration.

For Mamou-Mani, creating buildings is not a purely technical approach, he incorporates many aspects into the design and manufacturing of buildings. So, what is the starting point of a temple in the desert? In his studio, in London, Mamou-Mani set up a "mini-factory". His team creates early models of a structure through the use of 3D printers. And even in the early stages, the architects try to reduce waste by using and reusing lightweight materials that are created from sources like fermented sugars. "There's always this fear that you create a lot of waste if you experiment. But we think about the carbon footprint and that's how we reduce the fear of creating", Mamou-Mani explains. These are one of the many things you have to consider in environmental design: "Things are not one-dimensional and binary."

Another aspect of environmental design is the notion that buildings don't have to exist forever. "In the future, buildings will build themselves but also unbuild themselves", Mamou-Mani predicts and makes a comparison to dying plants that nature eventually will replace by growing new plants. So when Arthur Mamou-Mani and his team develop eco-parametic structures, they think as far ahead as the end of a project. For instance, the



Arthur Mamou-Mani's Sandwaves is the largest sandprinted installation yet, it consists of 58 3D-printed elements.

timber used in one construction could be reused after dismantling another construction. Mamou-Mani used a reclaimed timber from an old bridge to build a tower. So in the future, as Arthur Mamou-Mani sees it, we'll see fewer ruins. And this relates back to Burning Man, where you are not allowed to leave a trace behind.

This approach also influences the design process: "We create a system rather than a form, we start thinking in a bottom-up way", Manou-Mani explains. "Don't think of a project as an end goal, it can turn into new projects." We should rather accept things as systems that are beyond us.

Societies built around art

The transformation process is tricky though, as Manou-Mani recently experienced building his own home: "We used materials that are not petroleum-based and this is very difficult to find right now." He used fermented sugars, recycled glass and clay among other materials. Another example of eco-parametric structures in the home space is a chandelier that was 3D printed with fireproof materials. Trying to build eco-friendly homes also means finding ways to reduce air conditioning, which is known for its high energy consumption.

Not only is it challenging to do eco-conscious construction in the residential space, but it can also be challenging to scale. Manou-Mani says his studio proves to develop large-scale projects by working with corporate clients and big brands in the fashion space. When taking on a new development, Manou-Mani and his team take in the space and try to find local materials to incorporate: "We've been thinking about how to create art that builds society around it."

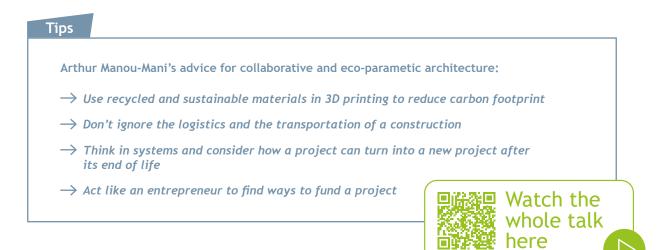
Logistics are key in green development

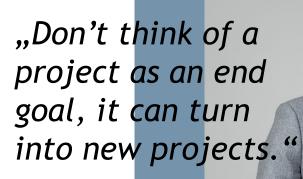
Developing projects that are simple to build and assemble, can be a complex undertaking. Manou-Mani says he learned a lot about transportation through his work: "The truck itself is the most important designer in the process. Logistics is something we really just ignore, but it's key to whether a building is green or not."

Besides truck drivers, machines are an important part of the conversation in the design process. The information sent to the 3D printers is vital: "You can be a lot more accurate if you communicate directly with the craftsman, in this case, the robot." Manou-Mani also advises not to be afraid of machines: "Without the machines, the design cannot be a way of thinking. The robot needs you, the algorithm needs you, they don't just come up with stuff. Machines are a little bit dumb and they won't stop if you don't tell them to. They are a tool, an extension of your creativity and they need dialogue."

Arthur Manou-Mani has been building structures for Burning Man since 2013. In 2018, he made his biggest construction yet, a temple called Galaxia. It was Manou-Manis's interpretation of the black hole idea that decompresses itself and takes anything with it. To assemble Galaxia, 120 volunteers worked for 18 days and at the end of the event, it was set on fire: "It was a ritual of letting go."

The experience of Arthur Manou-Mani showed that eco-parametic architecture and collaborative design are not only innovative and community-building, but also expensive. He admits that a lot of funding is needed at this stage to develop projects like these and tells fellow architects to act as entrepreneurs - which is something designers don't usually do: "They don't really do scalable companies because the business itself relies so much on them." So when Manou-Mani and his team started fundraising, they showed that it can actually be a business case and the technique-driven design doesn't need to rely on one person. In terms of creating buildings and communities, Manou-Mani likes to think beyond functionality: "Maybe there's a higher level that connects us."





Arthur Mamou-Mani

Arthur Mamou-Mani is a French architect and director of the award-winning practice Mamou-Mani Architects, which specialises in a new kind of digitally designed and fabricated architecture. He is a lecturer at the University of Westminster and owns a digital fabrication laboratory called the FabPub which allows people to experiment with large 3D Printers and Laser Cutters. Since 2016, he is a fellow of The Royal Society for the Encouragement of Arts, Manufactures and Commerce. He has won the Gold Prize at the American Architecture Prize for the Wooden Wave project installed at BuroHappold Engineering. Arthur gave numerous talks including the TedX conference in the USA and has been featured in The New-York Times and Forbes. Mamou-Mani's clients include ARUP, Buro Happold Engineering, Karen Millen Fashion, The Burning Man Festival, Food Ink and Imagination Itd. Prior to founding Mamou-Mani in 2011, he worked with Atelier Jean Nouvel, Zaha Hadid Architects and Proctor and Matthews Architects.

www.linkedin.com/in/arthur-mamou-mani-bba63b30 www.mamou-mani.com

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All five speakers of our conference demonstrated how powerful cross-business innovation can be - if we are willing to let it happen. Open innovation does come with challenges and there are judgments on both sides, the creative and the industrial sector. If we overcome these hurdles and meet at eye level, change and innovation will happen.

This might sound philosophical, but as we learned, there is no logical solution without a human level. Shared struggles bring communities together and let them benefit from each other. And all industries, as well as society, face the same challenges right now: climate change, competitiveness, supply chain issues, and social inequality.

What might seem like a small issue in manufacturing could eventually have a bigger impact, so companies should strive for a mission that is bigger than themselves.

Initiatives like COCO4CCI and New European Bauhaus have managed to empower innovation from the ground up and across borders.

And even though COCO4CCI has reached the end for now, as a partner we see it as a starting point for new initiatives. We are looking forward to connecting the CCI with other industries, European thought leaders and everyone else interested in the future.



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