

Laura Patricia Spinadel

URBAN MENUS. Parametric Consensus-Based 3D Future Planning

URBAN MENUS. Parametric Consensus-Based 3D Future Planning

Laura Patricia Spinadel (<https://orcid.org/0000-0001-9715-736X>)¹

¹ BUSarchitektur & BOA Office for Advanced Randomness, Austria & Argentina. | spinadel@busarchitektur.com

Fecha de recepción: 11 de febrero de 2022 | **Fecha de aceptación:** 25 de abril de 2022

Abstract

This paper describes the purpose and operation of URBAN MENUS, a speculative tool for the ideation of possible futures for cities based on integral impact analysis.

Keywords | Images of Future, Futures Visualization, Algorithms, Data Visualization, Data Analysis

URBAN MENUS. Planificación paramétrica futura basada en el consenso 3D

Resumen

Este artículo describe el propósito y funcionamiento de URBAN MENUS, una herramienta especulativa para la ideación de futuros posibles para las ciudades basada en el análisis de impactos.

Palabras Clave | Imágenes del futuro, Visualización del futuro, Algoritmos, Visualización de datos, Análisis de datos

Copyright

Centro de Diseño y Comunicación, S.C.© 2021. Este es un artículo de acceso abierto distribuido según los términos de la Licencia de Atribución de Creative Commons ([CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)), que permite la descarga, el uso y la distribución en cualquier medio, sin propósitos comerciales y sin derivadas, siempre que se acredite al autor original y la fuente.

Urban Planning Intervention Influences Politics

The future not only must be perceived; it also must be shaped
Fred Polak, *The Image of Future*

As for the future, your job is not to prevent it, but to make it possible
Antoine de Saint-Exupéry

An Argentinian professor had 2027 in Pinamar the idea of reissuing a primeval form of rap – the Payada,¹ and transferring it to modern times. Her goal was to flesh out an innovative culture of debate based on an ancient practice of competitive rhyming & music-making in pursuit of a new honesty.

To implement the project, she set up mobile, publicly accessible recording studios throughout the city with the help of planners. The boxes for the presentations are used by activists who express their ideas for a better world and criticism in singing competitions. The competitions are broadcasted on social media channels and reach an ever-larger audience.

A 14-year-old girl incredibly impressed politicians with her verses, triggering a coming and going of ministers now at her school, engaging with young people. Even more, due to the girl's initiative, Payada live sessions also take place in the Ministry for Future Affairs. Environmental protection and social delegates regularly debate with those responsible for economic affairs. The best ideas from the citizens' payadas flow into their texts.

A study shows in the Wikipedia project page of 2058 that this creative framework stirs more decisions in favor of an ecologically sustainable "We Future". Within half a legislative period, all decisions in the public interest that have been postponed for decades could be made based on this "common good approach".

¹ [N. o E.] Poetic art born in America, consisting of the improvisation of verses accompanied by guitar.



Figure 1. Stages of the iterative process of URBAN MENUS in its DEMO application as a free and free online training tool. Source: BOAnet.at.

The urban intervention has delivered a missing link in the cooperation of citizens and politicians.

The initiative to which you will refer chooses to put into practice the view of a parallel world. We are not interested in fighting against machines since we must find a balance and a way to complement ourselves with them. In order to do that, we must acknowledge that algorithms exist and that not all that glitters is gold. Robots do not have to be our enemies, but neither can nature be unfavorable to human life. Finding our place in the Universe, creating Spaces for Life with all living beings, is a common denominator that summons us.

First Half

The URBAN MENUS (<https://urbanmenus.com/>) is a novel platform for spatial development processes combining data understanding, data crunching, modeling, data visualization, critical impact analysis, and feedback options in an easy-to-use, high-end interactive real-time app with 3D visuals (Figure 1). URBAN MENUS quickly displays images of the future, allows a walkthrough, and evaluates effects in terms of resources and ecology (with the carbon footprint as one recent lead indicator amongst others), society and urbanity, and profitability.



Figure 2. Multi-level development of bottom up and top down engagement with the various stakeholders of the Vienna University of Economics and Business 2008-2015. Source: BOAnet.at.

Multi-perspective considerations enrich the process (Figure 2) and offer future security for investments in spatial development by significantly increasing the accuracy, regarding the best vision for the future compared to linear processes. URBAN MENUS can be decentralized and used simultaneously by several target groups, involved and affected by the development/planning process, supporting all stakeholders in decision-making by prototypical design criteria that can be tested and adjusted live on the screen.

Different perspectives can be highlighted by an individual as well as clustered results, represented in the form of a particular scenario chosen and its impact calculated by the tool. The Challenge Making Cities fit for the Green Deal means for our holistic parametric approach to work with many perspectives and aggregated perspectives of groups like the personalized perception of decision-makers, the “database of the region in question,” and expert assessments. This integral basis for an area’s development is fundamental to understanding the starting point of the development and activating the possible windows of opportunity. Through visualization and impact analysis, URBAN MENUS processes aim to meet the expectations of diverse personas, including young parents, entrepreneurs, and politicians.

THE PROBLEM OF COMPLEX URBAN DEVELOPMENTS

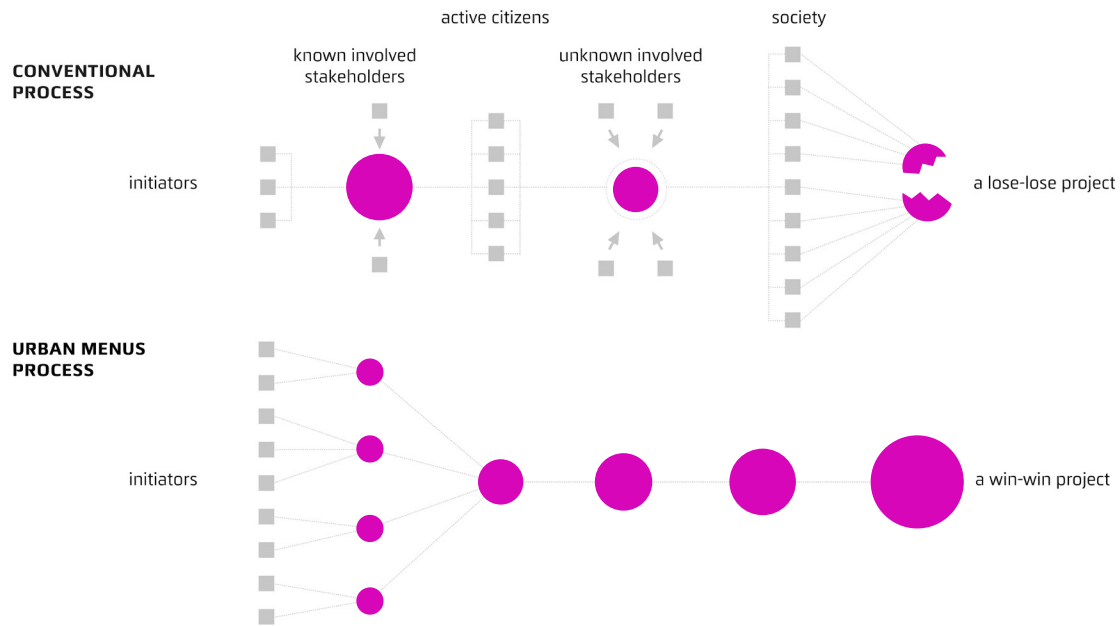


Figure 3. The problem of complex urban developments. **Source:** BOAnet.at .
Comparison of the decision-making process in traditional multi-sectoral participation projects with the proposed work using the intelligent interaction tool URBAN MENUS.

Second Half

When one tests and then applies an invention in contemporary markets, it is possible to affirm that any reality surpasses the fantasies of research and development of the methods and algorithms developed somewhat theoretically. Suddenly, URBAN MENUS helped initiate a process of change in the tourism-based summer production system in the Black Sea Village of Koblevo in Ukraine (2020-2021) to an annual economy integrating health and wellness for a much wider public. The project allowed for consensus building at national, regional, and local levels between public and private spheres, achieving a short, medium, and long-term Strategic Plan (Figure 3). Contrary to the expected tedious path, building the future became a pleasurable community task with URBAN MENUS, as each of the actors felt part of a change process and took a proactive role.

The revision of market processes and democratic structures by working with open systems and without limits in terms of the visions to be awakened involves a paradigm shift that may begin to give answers to those who ask themselves about the possible futures (and also for those who have not even asked themselves the question).

URBAN MENUS can be a crucial tool, as demonstrated by four pilot projects in India that are redesigning the system of project gestation and development in both a top-down and bottom-up strategy toward a cutting-edge Smart Development System. (Within the framework of TecInt 2020-2022 of the Republic of Austria, the following pilot projects are carried out: Cummins College Road is the opening of a university town to its surroundings and to the world. Mandai is the revitalisation and redefinition of the historic city center. Ranmala is the set of impulses necessary to achieve a regional development of an agricultural village. Baner Balewadi is the redefinition of a speculative real estate development with major conflicts with the population).

2022 dynamics

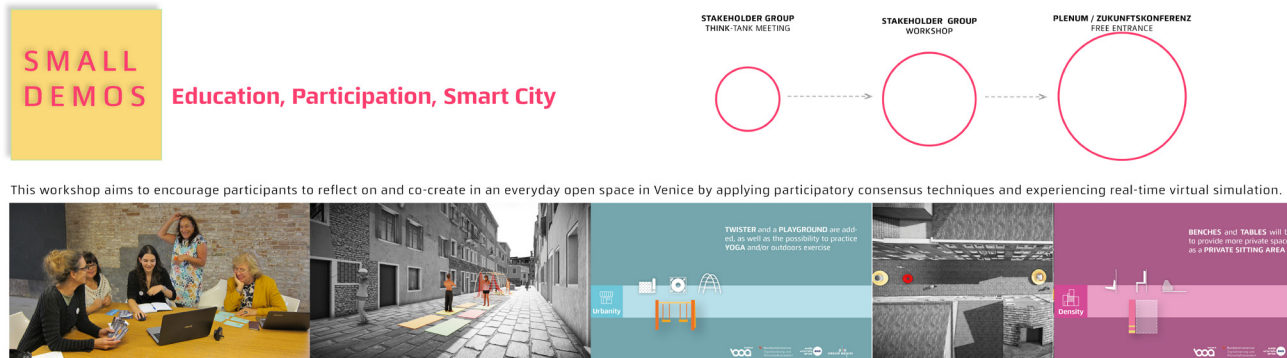
With the internationalization and growing diversity of development projects and the ever-expanding complexity of overall sustainability, the URBAN MENUS methodology is also growing and becoming more and more flexible. URBAN MENUS is a training, support, consulting and cooperation service, including a 3D software for participatory & impact-oriented integral urban planning and development, enabling equality in exchange of decision-relevant visions. The tool visualizes scenario visions and makes them tangible for different target groups such as developers, planners and investors including citizens. It incorporates a world-wide unique consensus- and win-win-assisting impact analysis algorithms and parametric system building on more than 100 parameters and considering the relation of planning projects to current societal goals, the SDGs, the Green Deal, the Leipzig Charter for Urban Development among others as well as diversity and gender aspects. Planning visions for a future in 30, 50 or more years (urban dreams) can be elaborated along three main interests: (1) Ecology & sustainability as cultural approach, (2) urbanity & society as political system, (3) density & (economic) efficiency as business model. 5 current societal goals Happiness, Security, Innovation, Profitability and Circularity are also considered, when evaluating scenarios.

Reference Sports & Leisure Mile Krems, AT

Master plan for the revitalization of the sports and leisure mile Krems in Low Austria at the Danube in order to set impulses for urban development based on the body culture.



At the future conference the mission statement or master plan was presented, illustrated with the URBAN MENUS tool and put into a public discourse as part of a panel and audience discussion.



This workshop aims to encourage participants to reflect on and co-create in an everyday open space in Venice by applying participatory consensus techniques and experiencing real-time virtual simulation.

Reference Venice Biennale, IT

Built environment education for young people (Get involved IV BINK Initiative) URBAN MENUS Workshop at the Architecture Biennale, Venice with teachers and educators.

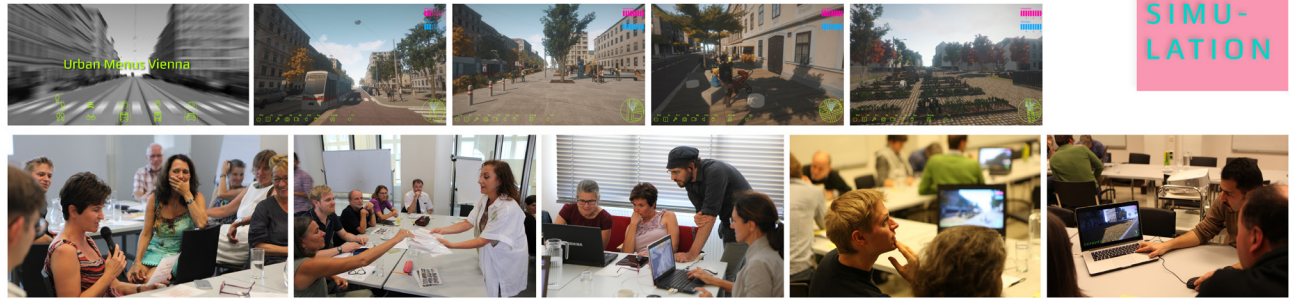
Figure 4. Decision-making workshop, Stein on the Danube, December 2018. Presentation as part of the Future Conference Krems on the Danube, March 2019 & Workshop at the Architecture Biennale, Built environment education for young people, Venice, October 2018. **Source:** BOAnet.at.

Flexible in terms of target groups involved, flexible regarding impact dimensions and parameters, flexible regarding data availability and use in the algorithms.

On an intelligent dynamic data structure and algorithmic concept, the algorithms learn how to consider this flexibility without making the system arbitrary, keeping it transparent regarding the perspectives, impacts, and data considered. The system is adapted by a configuration level that allows regionalization or customization in general in specific ways and documenting this to always inform the users on the model and background used. This also applies to local data of an area (if it is not feasible to depict the whole area in a digital twin format, URBAN MENUS is also able to operate on a poor data set, even without visuals if needed) although this, of course, is not the preferred option (Figures 4, 5 & 6). However, it is a way to provide broad and affordable functionality on terse notice and poor data grounds. with the option to improve over time.

Reference Street Menu Vienna, AT

Based on typical street profiles of the city of Vienna in Austria, an urban 3D configurator was simulated and developed.



The result is an interactive and playful desktop app, targeted at a broad audience. The different street spaces with the viennese street typologies were examined using two controllers: Urbanity and Ecology in multiple configurations.

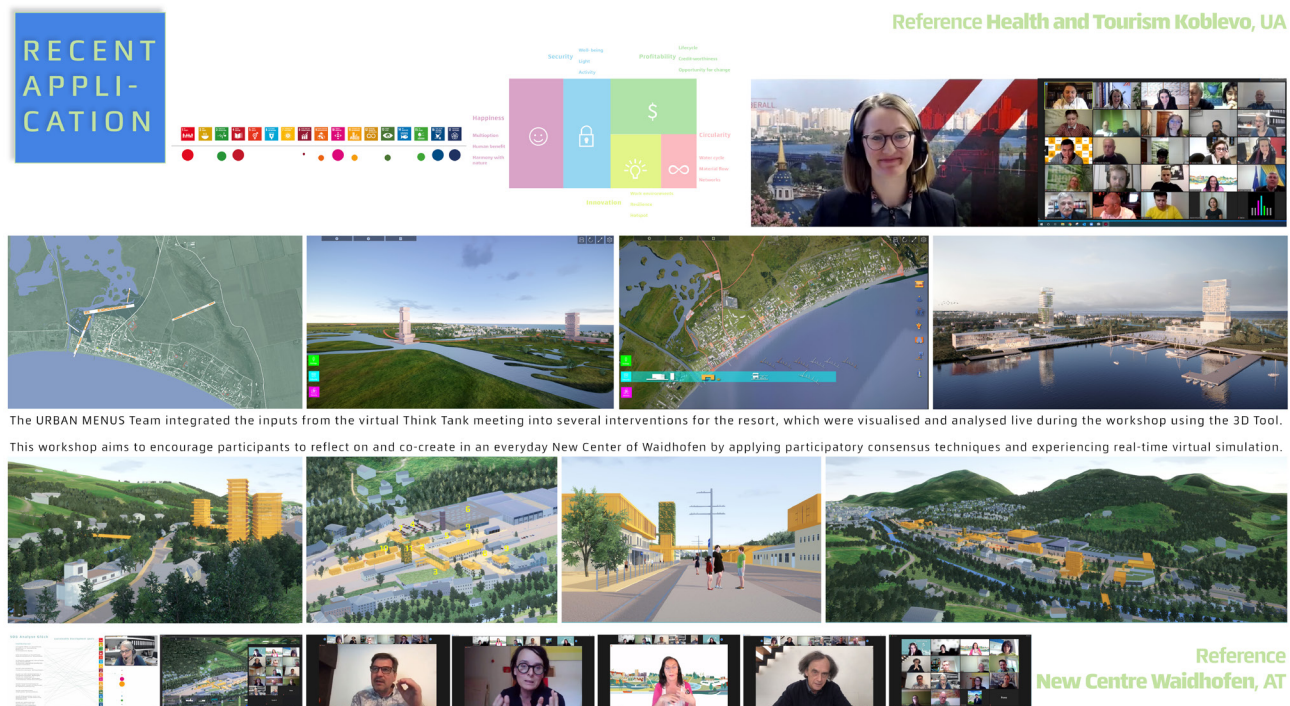
Reference Innovation Mile at ITMO Highpark, RU

An ambitious goal – the creation of the University of the Future. We created an interactive configurator for the Innovation Mile



Part of the innovation centre for the development of ITMO outside from St Petersburg, this was an area designed to accommodate small and large start-ups. There would be several co-working spaces with recreation zones, an entrance hall and exhibition

Figure 5. Urban Simulation. Street Menu Vienna based on typical profiles of the city with an interactive and playful desktop app targeted at a broad audience 2016-2017, System Development and Settlement Management of Research and Development Urbanization of Start Ups at the ITMO University Campus near Saint Petersburg 2018-2019. Source: BOAnet.at.



Reference Health and Tourism Koblevo, UA

The URBAN MENU Team integrated the inputs from the virtual Think Tank meeting into several interventions for the resort, which were visualised and analysed live during the workshop using the 3D Tool. This workshop aims to encourage participants to reflect on and co-create in an everyday New Center of Waidhofen by applying participatory consensus techniques and experiencing real-time virtual simulation.

Reference New Centre Waidhofen, AT

Figure 6. Recent Application. Digital democracy process through Think tank and Stakeholder Workshop at local level of Koblevo, regional and federal level of Ukraine, 2020-2021, Training of Public Administration to integrate sectoral multilateralism in urban development decision-making 2021. Source: BOAnet.at.

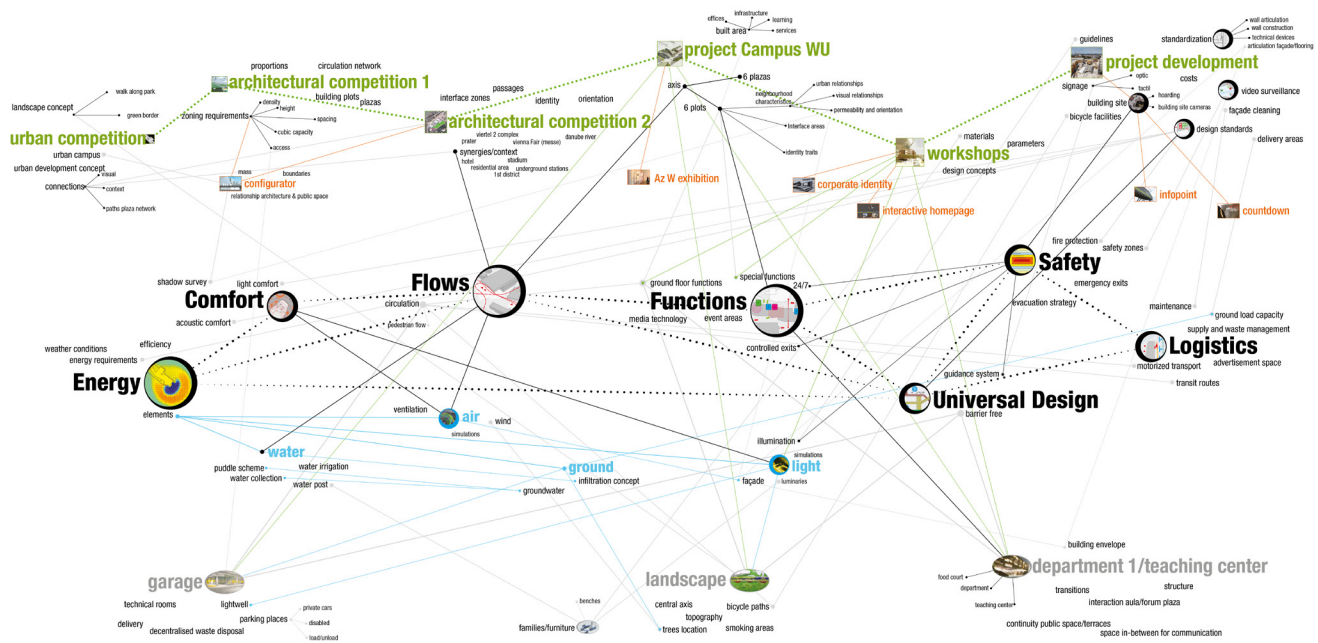


Figure 7. Comprehensive Master Plan for the new University of Economics and Business accompanying the process from conception to turnkey handover of the Campus in Vienna 2008-2015. **Source:** BUSarchitektur Own elaboration

Each URBAN MENUS project is one-of-a-kind, with unique stakeholders, goals, and urban settings. The tool must be just as flexible as our analysis or processes to accomplish the desired results (Figure 7). With the end-users and the project's purpose in mind, we design a user experience to inspire stakeholders to be proactive, feel part of the project, be motivated to interact, be supported by the digital model, and discuss future scenarios. Interactivity allows users to change and adapt urban interventions directly on their screen and immersion in a future scenario leads users to understand, talk, and dream (Figure 8).

Our project in Krems involved taking decisions on a masterplan level, where pressing a few keys was enough to visualize what the Sports and Leisure Mile would look like with one, two, or five centers (Master plan for the revitalization of the sports and leisure mile Krems in order to set impulses for urban development based on the body culture 2018-2019). When working in Venice with young people, a graphical user interface and very detailed concepts modeling were necessary to make them reflect and co-create an everyday open space in a touristic city. This workshop aims to encourage participants to reflect on and co-create in an

Developing of Urban Dreams

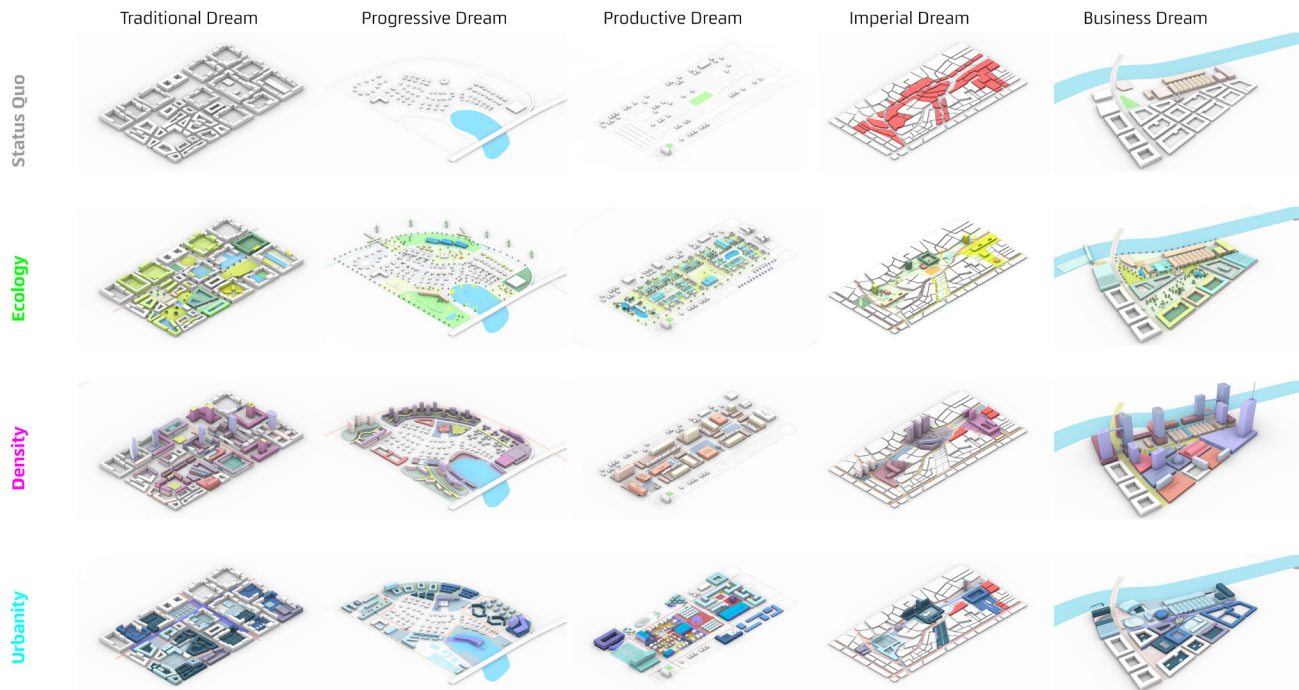


Figure 8. Developing Urban Dreams. Traditional Dream, Productive Dream, Business Dream, Progressive Dream, Imperial Dream as orientation for the development. For the interactive operation of the Urban Menus, the elements are classified to be interchangeable in order to allow millions of configurations. **Source:** BOAnet.at.

everyday open space in Venice by applying participatory consensus techniques and experiencing real-time virtual simulations with the aid of our software Urban Menus 291.

In Waidhofen, talking about the New Center was easy while using a map as a menu, where the user could choose, for example, if culture or education should be integrated into a certain area. Development of a multi-sectoral strategy to achieve the creation of partnerships between the private market and the public administration, which are distanced by the development objectives of the transfer station area 2021. Meanwhile, when experimenting is the goal of a workshop, we design sliders that facilitate talking about a direction for development without having to make specific decisions for individual plots. We have one final purpose in mind in all these examples: helping people make better decisions!

Multiple Choice

Each individual regains his or her power to express his or her opinions and preferences for the future of his or her life and that of his or her own, just by a click at the right time.

In order to understand the chart, it is important to know how to interpret the data:

- Similar values of the main interests are indicative of a strong balance, although that does not necessarily correlate with a strong identity within a distinctive atmosphere.
- When the individual values of the site under analysis are prevalent, the corresponding interests have a stronger presence than the other two.
- The future is agile.

In line with the goal of setting this in motion, the URBAN MENUS are a foundation with which we can guide a working process that fosters creativity and innovation based on absolute flexibility and adaptability to the users' wishes. The development of this instrument advances according to the interactions between configurations, its algorithmic evaluations, and the reflections it triggers. In the development and in the application phase, it is a process that moves in cycles, which allows us to constantly redefine its GPS, and react by making the necessary adjustments.

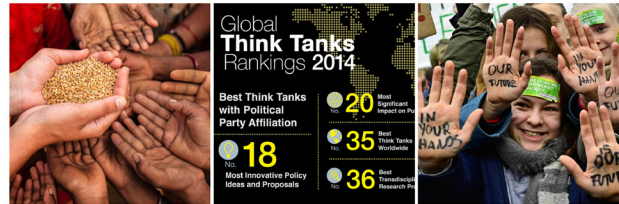
At the same time, the so-called Scrum, understood as a framework for Agile Development, not only defines the rules of our operational tasks, but also of their application. We are talking about a methodology where a number of best practices are regularly applied in order to work collaboratively and obtain optimal results through incremental and evolutionary development. This is to say, we do not have absolute control over the planification of our product, the group that will apply the URBAN MENUS, or the urban fragment that will emerge as the agreed upon proposal.

EASY PROCESS —> URBAN MENU PROCESS USPs

- 1 efficient early phase kick-off, fully digital
- 2 combination of architecture & impact analysis
- 3 holistic future-oriented impact analysis helps with the framework complexity in line with the Green Deal Development
- 4 consensus-based joint venture



efficient / targeted vision / feasibility / market study process for area development



- A** minimize RISKS!!!
- B** SUSTAINABLE INVESTMENT in wellplanned infrastructure
- C** HAPPY PEOPLE win-win

FAST RESULTS —> URBAN MENU OUTCOMES & BENEFITS

Figure 9. Urban Menu USPs. Urban Menu help evaluate the fundamental impacts that space planification has on the public sphere. This planification process –which naturally affects a great number of people– should gather numerous different stakeholders. The goal: the best product is the one that gathers the input made by all of the stakeholders that interacted during the process. **Source:** BOAnet.at.

In summary:

1. Digital participation allows everyone to have a voice in the processes.
 2. Digital democracy enables more consensual decision-making.
 3. Transferring goods digitally extends leisure time as an option.
 4. Teaming up with Artificial Intelligence complements my wisdom.
 5. Believing everything I experience in virtual worlds trivializes my discernment.
 6. Knowing the multiple impacts of any decision broadens intelligence.
 7. Transparency in information allows me to live much more comfortably.
- Truth or consequence?

Me, them, and everyone else to make the future possible

In a parallel world, the outstanding communal achievements that surpassed the Medieval Cathedrals led different groups of power to begin a dialogue through URBAN MENU (Figure 9). The consensus became the key to the success of any project.

Suddenly, the public administration discovered that when a development model was not imposed by law but instead agreed upon politically, the results of the process were much more significant and allowed for a global repositioning previously unthinkable.

Real-estate developers have seen that, because of the synergetic development of the surroundings of their project, they were able to shorten their amortization up to the point where they began to invest in the aggregate value of social and cultural equipment in their projects.

Citizens have stopped thinking that every change makes things worse (for the benefit of very few) and have begun to participate in the development process actively as we have seen in Chile in 2019/20. The number of young people who have decided not to emigrate, but to stay and put their talents to work within this new reality, has risen demonstrated every Friday with the demonstrations demanding their rights since 2018.

The financial industry has lowered its interest rates considerably upon discovering that a cross-sector cooperative agreement gave their investments enough security to render business risk almost zero. The number of credits they issued grew exponentially as suggested by the trend since the mandatory annual EU reporting of carbon footprint balances.

In universities and research centers, being able to work from multiple perspectives, integrating all disciplines in a transversal way, allowed new generations to think about the future of housing in cities to become much more inclusive since all of a sudden they knew what they were talking about, as the new generations who co-educate themselves with their research show us.



Figure 10. URBAN MENUS Quality of life measurement framework 5 MAIN THEMES. Source: BOAnet.at.

Think tanks developed by innovators in politics, economy, and the industry allowed a more efficient articulation of development strategies and strengthened future generations through open hall meetings, from the very moment in which conversations began as the examples of Nordic or New Zealand democracies show.

Furthermore, it all started at this first encounter, when we decided to organize the payada project. Our goal was to achieve an innovative culture of debate. Without question, we must call a spade a spade, but in a respectful manner, so we can achieve an agreement regarding the basic principles that bind us as for example the old constitution of Bosnia and Herzegovina says: the right to light, the right to water and the right to a view. In a legislature, all decisions regarding the common good that have been postponed for decades could have been made. An intervention in the city has made citizens use their voices more quickly to advance in politics.

As a result, the number of projects that have requested consideration to be discussed for consensus through URBAN MENUS has grown exponentially, increasing the happiness these holistic villages provide to everyone who participated in them, either directly or indirectly, has become a daily reality. This news from the future should fill us with hope, not only in the parallel worlds we have learned to enjoy.