Title of the Session:	Sustainable Cities, Regions & Communities & Tech for Good
Chair/Moderator:	Hugo Kerschot
Introduction of the Session's topic:	Hugo Kerschot gives a reflection on the evolution of this session over the years, starting many years ago as a eGovernment session, evolving towards intelligent and smart cities extended to smart regions and communities and today we focus (hopefully in a smart and intelligent way) towards "sustainable" cities and regions and that's we have to admit is the way to go, no buzzwords needed anymore.

Panelist:	Hugo Kerschot
Title of the presentation:	DUET: Digital Urban European Twins or how to model sustainable cities
Outline/ Issues addressed:	DUET **Digital Twins,** a EU Horizon 2020 innovation project, provide virtual city replicas which make it easy to understand the complex interrelation between traffic, air quality, noise and other urban factors. Powerful analytics model the expected impacts of potential change to help you make better evidence-based operational decisions and longer-term policy choices. The pilot cities in the project Pilzen, Gent and Athens make use of their traffic and air pollution data to simulate potential structural changes in their cities….
Key-Takeaways:	DUET is developed by cities for cities. DUET's digital twins promote data-driven decision making by building a comprehensive, virtual representation of a city's processes. With the right data points, DUET digital twins provide a business-level view that can be used to measure, analyse and predict operational impact across an entire city or region. This end-to-end, real-time, visibility enables cities to understand what is happening across its multi-disciplinary domains and services. With this knowledge, cities can react quickly to events and simulate alternative policy and operational approaches based on real data like traffic information, air and noise pollution…

Panelist:	Haitham Al Rawahi Architect and Urban Planner, Ministry of Housing and Urban Planning, Oman
Title of the presentation:	Sustainable Smart Cities
Outline/ Issues addressed:	Sustainable Cities is not a new form of urban development. These urban developments can be seen from the past, where cities use to be developed around the needs of its inhabitants. Smart technology will not make any city sustainable. It might only help in monitoring it. A successful sustainable city design would look at LIVE, WORK, &PLAY all in a walking distance. Barcelona is a good example of this. With a 150-year-old master plan, Barcelona is design around walkability with the human scale in mind. Adding to this, the city's master is very flexible to change and upgrades "the superblock project".

	Super blocks help cities achieve a better social, outdoor, living environment for pedestrians by reclaiming The streets. 40% of the world cities could also develop super blocks. The city of Muttrah in Oman can also be developed into a superblock, which will make it more attractive than it is and better for tourism and it will help in better preserving its heritage buildings.
Key-Takeaways:	• Sustainable cities are developed around the needs of their inhabitants. • Walkable cities are the core of any sustainable city. • Human scale makes a city more sustainable. • Smart new technology is only the Icing on the cake it will not make a city sustainable.

Panelist:	Dr. Alexandre Hedjazi Senior Global Governance & Urban Sustainability Transition Expert, University of Geneva, Switzerland
Title of the presentation:	From Multi-faceted Crisis to Co-benefit production, lessons from Post-Covid recovery in Geneva
Outline/ Issues addressed:	The conjunction of Covid Pandemic and Environmental challenges has elevated cities role as living labs where a great number of new strategies are being formulated in response to multifaceted and interconnected challenges. The variety of response mechanisms and policy frameworks draw from the common understanding that current city planning and management tools are unsuited to deal with intertwined challenges and the need for integrated solutions. To design and deploy new tools there is a need to disseminate best practices, input on policy and legal aspects, develop tools of project financing that solidly bridge the Built Environment and Infrastructures with Natural Environment in Cities. Such connection can only be secured in time by associating citizens to: Co-Defining the challenge, Co-Designing the solutions, Co-implementing the strategies and policies Co-monitoring the outcomes of projects driven by those strategies
Key-Takeaways:	Cities in reducing their negative impacts on natural environment must recast the planning process. Within a transitional period, cities are set to reduce energy and materials flows, and consider alternative models of growth while focusing the planning on people, place and environment.

	This entails directing Urban Resources and flows towards greater resource efficiency in respect to: Energy, waste, water, food and public services such as transport. Further, Cities need to aim for the well-being of citizens acknowledging new socio-cultural dynamics and aspirations of the population and desire for urban systems respectful of the natural environment.

Panelist:	Anixi Antonakoudi Innovation Manager, The Cyprus Institute (CyI), Cyprus
Title of the presentation:	Building Resilience of Natural Infrastructures & Communities through Technology, Innovation and Entrepreneurship
Outline/ Issues addressed:	The Eastern Mediterranean has been identified as a critical climate hotspot that will be significantly affected in the next 20 years. Creating, preserving and protecting natural infrastructures in the region is crucial for mitigating negative environmental, social and economic impact. A series of interventions and initiatives focusing on the Pedieos river in Cyprus and its natural corridors have been presented to exhibit how climate change and adaptation, the creation of nature based solutions and preservation of natural infrastructures can been addressed through the combination of technology, open innovation and entrepreneurship.
Key-Takeaways:	Applying open innovation, co-participatory and co-design methodologies, complemented by digital technologies, visualization and ICT tools can efficiently mobilize all ecosystem actors, enable the collection of meaningful data and inspire entrepreneurial ideas to address climate adaptation.

Panelist:	Marc Watum Co-Founder, Vertex Ecosystems, South Africa
Title of the presentation:	Sustainable smart cities and their prevalence, are sustainable smart, cognitive cities objectively desirable?
Outline/ Issues addressed:	Esteemed delegates, speakers, it is an honor to be with you today. I live in South Africa, but have lived in Uganda, Mali, even London. And I've had the privilege of working in the DRC, Kenya, Egypt, and lots more. All across the board the themes of innovation, technology, our environmental challenges, and investment have dominated my experience. I've set up a for profit venture capital fund designed to invest in the innovations of tomorrow. I've set up a non-profit organisation designed to identify the opportunities for such innovations to prevail and make real community impacts, and to specifically uplift local ideators of solutions for their own issues. In the process I've directly advised over 1000 entrepreneurs. Today I'll share my position on this subject with these

experiences in mind.

The benefits are multifaceted. Objectively, to incorporate these solutions will lead an economy to better its industries, to make processes more efficient, and to improve the standards of living of its citizens.

The objective benefits of adopting a sustainable smart and cognitive innovation model can be described as intrinsic, that is, benefiting the self, or the inner institutions of the particular city who has implemented them. In doing so, a city produces more positive externalities - more common access goods, more mobility, more education & healthcare, the list goes on. Simultaneously, the city will reduce the negatives - less emissions, less waste, less crime, less problems. Right?

Well the truth is actually it is not that simple. There are some contentions that I'd like to irk you with a little bit. As we are a 'global' forum, I'd like to observe its merits in a 'global' context.

How do you define sustainability? Depending on who you ask, and today you're asking an African, sustainability reaches beyond Oslo, or Copenhagen - or in the Middle East, Neom city (in Tabuk, SaudiArabia). It is ironic that the model sustainable, smart, cognitive cities of the world have arisen as exemplars when they haven't in any recent period been a problem child in the world's environmental issues. Short of New York and Singapore who engages in emission offsetting activities to qualify as nearly if not fully net-zero emitters, while today appearing in every top 10 emissions list, virtually none of the most revered smart, cognitive cities have ever been describable as responsible for the world's unsustainable, unintelligent, and mindless environmental practices.

What is even more ironic is that in the last year alone, cities have spent in excess of $124 billion in the pursuit of this subject matter, yet natural disasters are still on the rise - we have floods, hurricanes, droughts, and famines that even if you deny have anything to do with the emission of green house gasses, you must question the true sustainability at play through this decisionmaking. Where I come from people are dying under this phenomenon, with only increasing population and resource scarcity pressures pending.

How do you define readiness for this transition?

I sparred with a fellow delegate on this yesterday and she insisted that actually a model city shows the world what is in the realm of possible, so that we can move toward this in the future. Think of the first car she said. Point taken. But until all of us are able to make these interventions to the tune of $124bn, my

people fear that inaction on our most pressing issues will leave our continent far too destitute for it to even matter.

Which leads to my next question - How do you define impact?

When we look at this subject matter there are typically few types of impact we consider. All under the caveat that within the different types of impact exist different qualifying metrics. Within the different qualifying metrics exist different lenses. It is through these lenses that intervention decisions are made - and depending on how you perceive them, you can tell very different stories.

Take sustainability as a type of impact, for example. Within all of the metrics that form our opinions on sustainability sits emissions. When analysing emissions, the most common lenses include total or net carbon emissions, versus per capita metrics. Switching between the two lenses will reveal a totally different top 10 culprits list for the world, so who do you blame? Where do you press? Where should you invest? Can the impact trends objectively determine whether an investment into these infrastructures should have happened in the first place?

Further to this example, here is a map of the world's top 100 carbon emitting cities. Let's do a little exercise.

With your visual mind, draw a separating line between the top and bottom hemispheres. If you know your geography, the equator is what you may have just imagined.
For the global South we have how many, maybe 9 or 10 cities appearing, none or whom are in the red?

Pay close attention to Australia, who has just 3 cities on its East/ South East Coast. If you really want a North hemisphere example look at Canada, virtually blank on this map.

Look at what happens when we change to per capita instead - understandably Australia and Canada, who have relatively small populations, blow up as hot spots.

In Australia's case, if achieving global sustainability is truly the objective, then knowledge that three cities are rampant emitters would in my book justify the pursuit of these innovations.

Meanwhile, aside from Joburg and Cape Town, Africa is the only place on this comparison to remain dark. So to pursue these innovations would require some very good reasons in my book.

Fortunately some states - from Rwanda to Kenya to Nigeria, and now the DR Congo all have their reasoning, and I have been lucky enough to submit a preliminary study to assist one of these

	governments to plan their first smart sustainable and cognitive city.
	I am still under NDA but what I can say is for this to work, at least in this context, serious prioritisation of predictive, personalised, localised, innovations will be crucial to develop right, the first time.
	Question: where do you think the money should / would go in Africa?
	My theory of change is that sustainability is both an adaptive and relative term. I believe that to achieve sustainability in a context of severe vulnerability to environmental changes matched with pathways of poverty and illness requires localised innovation, not ideas drawn up by communities who have enjoyed a totally seperate set of endowments and thus faced a totally separate set of problems.
	Given the size of Africa's infrastructure gaps and population growth dynamics we can then argue that the investments I advocate in my work will be worthwhile, have supernormal returns for all of their stakeholders, and be objectively sustainable, replicable, easy to implement, universally affordable, universally inclusive, and could reverse the laggard impact trend facing anyone who is due to develop using the conventional ways that sabotaged our top emitters in ways that have positioned them today.
Key-Takeaways:	

Panelist:	Daniel Van Lerberghe Founder & Director, Innogage, Belgium
Title of the presentation:	Enhancing Culture & Fighting Climate Change in Urban Environments
Outline/ Issues addressed:	Artcast4D: Artcast4D: Unleashing creativity! is a Research and Innovation Action, funded by the European Commission under the Horizon Europe funding Programme, that aims to design, develop, and test a global framework for Cultural Creative Industries in Europe for producing efficient, cost-effective software and hardware (projectors, computers, cameras, and detectors), multi-user, multi-site, multi-platform non-invasive immersive and interactive users' experiences. Artcast4D aims to approach culture as an emotionally engaging "communicative experience" in public spaces, to test its potential on 4 different pilots and 4 different scenarios. Pilots will showcase the potential of immersive experiences to boost CCIs as a driver of innovation and competitiveness using impact assessment and measurement techniques – www.artcast4D.eu

	Purifungi: Did you know that tobacco products are the most prevalent of all collected waste & litter in the world? Purifungi is a Belgian female-lead start-up that treats & transforms cigarette butts with fungi and makes products out of it closing the loop of the material cycle – such as ashtrays, isolating panels, biodegradable packaging, or artistic sculptures. Myco-remediation is an innovative fungal decontamination method originally used to clean-up polluted sites. Purifungi transposes this technique on cigarette buds and owns a patent on the technique. After remediation, a new material is created from the combination of butts and mycelium. This myco-material has many properties such as flame and water resistance, mechanical absorption, lightness, and carbon sequestration during production.
Key-Takeaways:	Artcast4D provides evidence on the role of the cultural and creative industries as drivers of innovation in other economic sectors such as citizen's engagement in public space, Art & Creativity in Public Spaces, Innovation in Art and Experience, and Tourism and advertising of cultural events like a global social sculpture. Purifungi is a perfect example of bio-recycling waste, while empowering local and circular economies in urban environments. Fungi are well known to be the best recyclers in Nature: they can degrade organic and inorganic materials. Combining myco-remediation and bio-fabrication can create new opportunities from waste recovering to material production with a fully sustainable approach.Purifungi.com is working with Nature to regenerate Nature.

Panelist:	Nitya Karmakar PhD, School of Business (Higher Education) LE CORDON BLEU
Title of the presentation:	Role of ICT in Helping Sustainable Development and Conservation During COVID-19 Pandemic
Outline/ Issues addressed:	The world is facing new challenges in relation to balancing sustainability and conservation with the proper utilisation of Information and Communication Technologies (ICTs). To sustain business during and after the COVID-19 pandemic, companies will have to embrace more and more of these disruptive technologies, what was further discussed: 1. Do you think that the world is better place now than 10 years ago? Will be better after 10 years? In both cases, no positive answers, Australia for example, 3 dangerous floods in 2022, heavy rain & bush fires, getting worse when comparing with 10 years and it may go worse after 10 years. 2. What is the most important issue in your life? The answer varies, person to person: Climate change to health care or other important issue such as Quality education, pollution, clean water etc.

	3. What is the most critical issue facing the world? Currently Energy, however, next conflict could be with Water which could be more serious as well as dangerous than Energy.
	4. Can we attain the 17 Sustainable Development Goals (SDGs), also known as the Global Goals, adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030? The answer is doubtful to meet the goals by 2030, however, SDGs are the blueprint to achieve a better and more sustainable future for all. The creativity, Innovation, knowhow, technology and financial resources from all of society is necessary to achieve the SDGs in every context incrementally beyond 2030.
	Sustainability cannot not be considered in isolation without conservation which is preserving our biological and ecological resources while sustainability focuses on protecting and preserving the natural resources as well as environment for the benefit of future generations. The speaker focused also on the SDG 11: Make cities and human settlements inclusive, safe, resilient, and sustainable and SDG 13: Take urgent action to combat climate change and its impacts.
Key-Takeaways:	Global warming has become an undisputed fact about our current livelihoods; our planet is warming up and we are part of the problem as the population has grown up almost 3 times during the last 60 years. There are several current and emerging challenges that humanity must fight not only to achieve sustainable development but to survive on Earth as well. The ICTs will act as a enabler for Sustainability and Conservation.