Artist Name: **Stanza**

www.stanza.co.uk

London UK +44(0)7701309802

stanza@sublime.net

STANZA

The Nemesis Machine – From Metropolis to Megalopolis to Ecumenopolis

Shown In Paris at CentreQuatre France Biennale Nemo. (6m by 7m plinth)

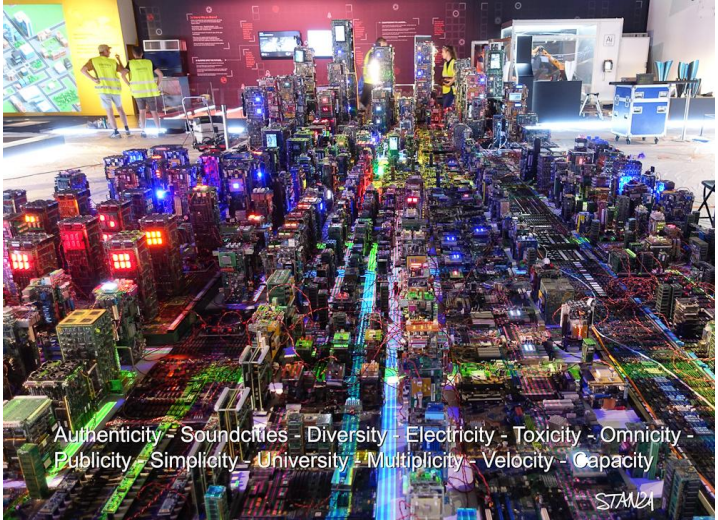The Nemesis Machine – From Metropolis to Megalopolis to Ecumenopolis

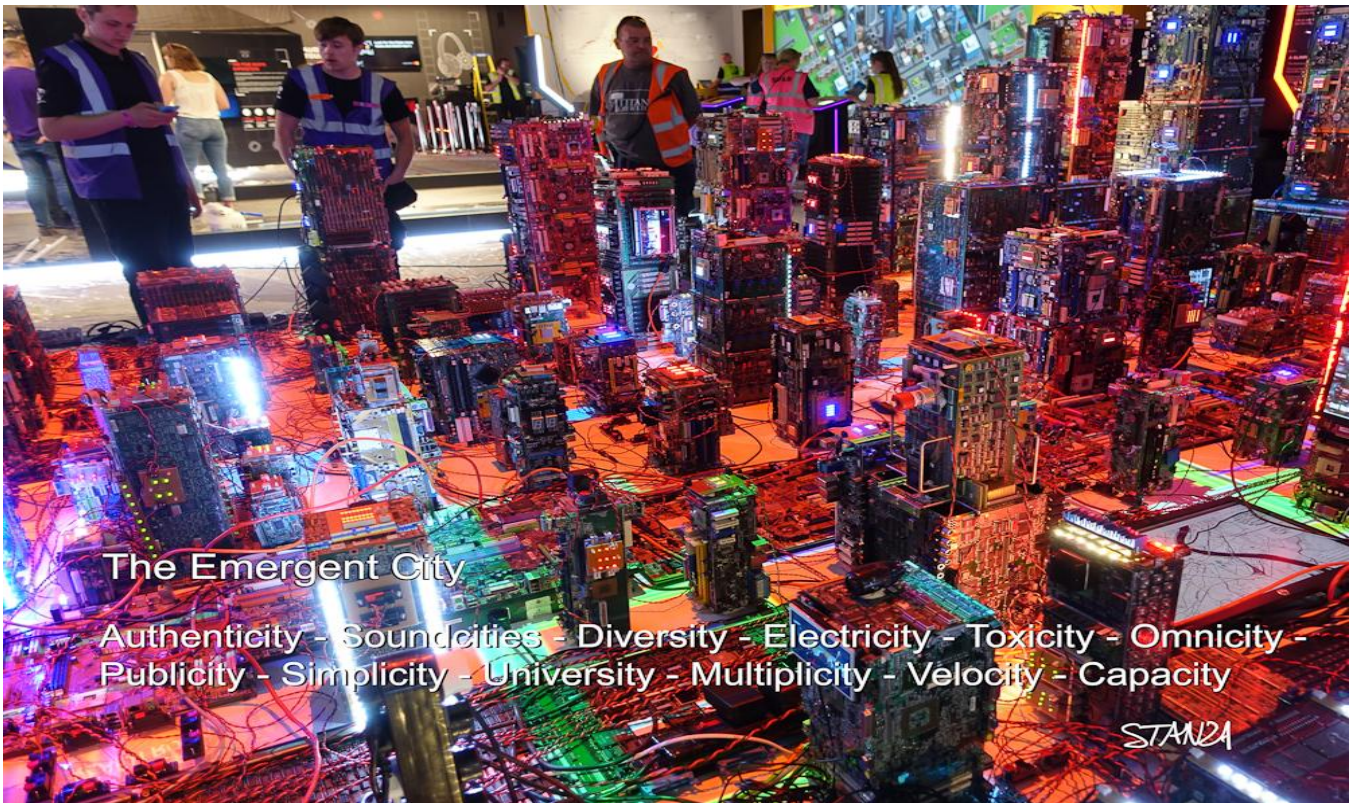# The Nemesis Machine – From Metropolis to Megalopolis to Ecumenopolis

The Nemesis Machine spectacular digital art installation using real time data interactions to create a unique responsive connected city installation and interactive experience which is both audio visual and participatory. This is the largest and most complex art city the artist has made to date which is custom built for each location. You see a large spectacular installation made of hundreds of custom electronics parts and computer parts built into a city. Each individual customised area reacts to layers of data from a variety of sources which are mixed and reassembled to create a unique hybrid digital artwork. This is an audience engaging multi-layered digital experience of the modern world and includes:- overlayering smart city IoT networks which change and affect in real time the lights and motors, so that the whole installation is actually a hugely impactful responsive smart city data visualisation.
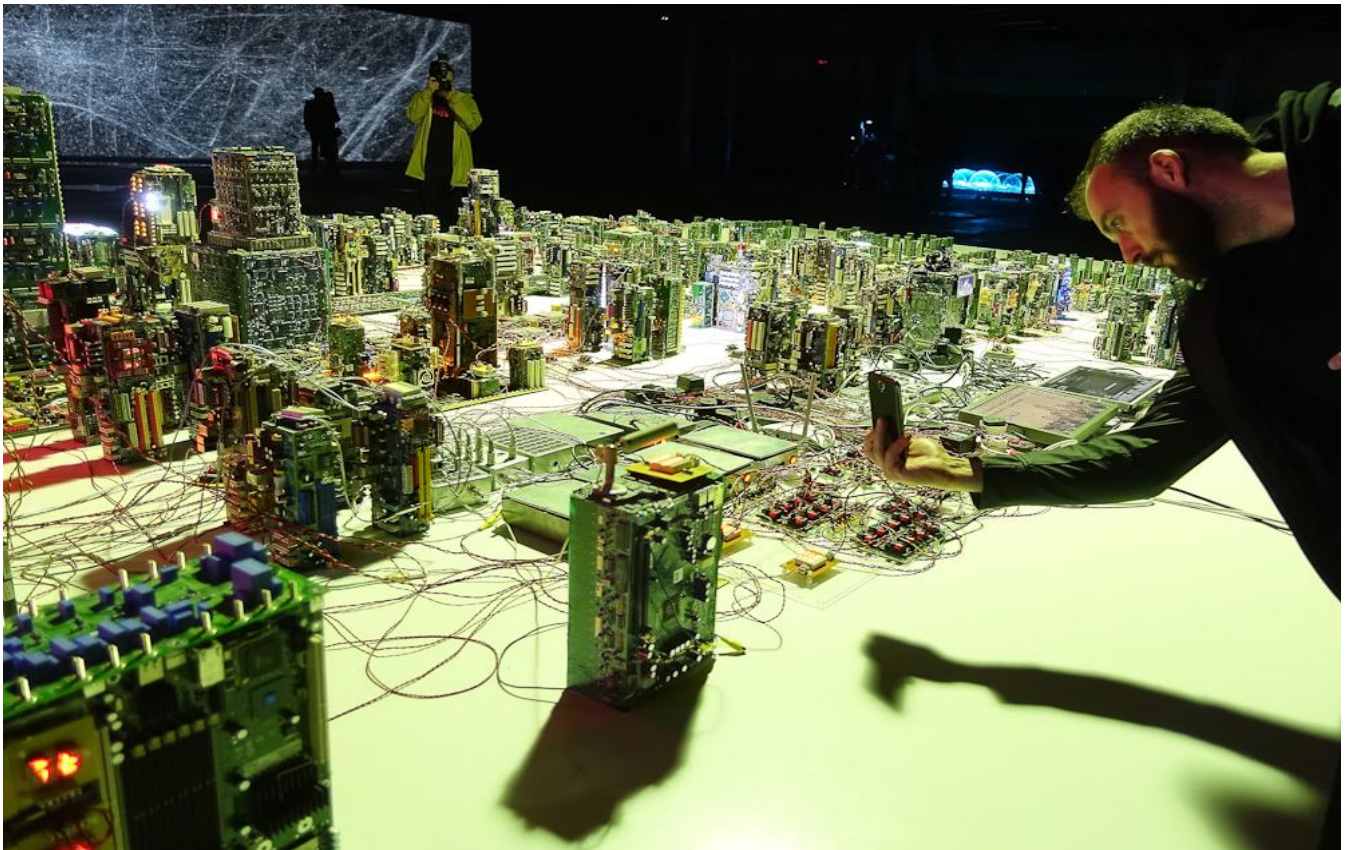
There are screens showing the data sets and real time feeds from the connected networks of mesh sensors. There are several towers which are customised to show live surveillance and camera feeds of people inside the space as well as another software showing the wider context of networked surveillance from 300 cameras in London. There is an extended sound layer of global city sounds which is created into a unique connected city interface merging sounds and maps from over fifty world's cities and traversing the globe and this can augment the whole experience by playing these sounds in a network also built into the installation. Other layered systems include a unique phone APP called Velocity that allows the installation to track people walking which then visualises this data and incorporates this into a participatory while demonstrating the possibilities of shared open and collaborative data in an ethical and responsible way.

The Nemesis Machine
From Metropolis to Megalopolis to Ecumenopolis

Shown In Madrid 2021 in Daylight. (large version)

Shown here at Goodwood Festival of Speed Futurelab with extra systems and downward projection system

The Nemesis Machine is seen here in a large factory on a custom made white plinth which raises it off the floor.

The Nemesis Machine is seen here on a large cross plinth and the computer parts grew up the pillars. It is shown here in WRO in Wroclaw Poland in a show called Megalopolis curated under Draft Systems.

THE NEMESIS MACHINE: DISTRICTS

In the largest version there are lots of interlocking systems.

THE 'DISTRICTS'. The Nemesis Machine - Authenticity - University- Authenticity - Omnicity - Complicity - Velocity

The Nemesis Machine. How does it feel to be part of the real time flow of a global system? What happens when we mix data typed across the landscape? Internet of Things (IoT) mesh sensor networks – draw in real-time environmental data activity, which is merged together to represent a world full of data. The sensors include light, temperature, noise, sound and humidity to create what Stanza calls panoptic aesthetics.

BECOME PART OF THIS LIVING ARTWORK. Extras that are also exhibited

Authenticity. Another separate local sensor network in the room uses sensors to measure air quality and pollution including NO2, CO2, O2 and alcohol. These are the types of general air pollution and car pollution

used for urban air quality measurement. *(This would react to local data at your location and also trigger parts of the main installation)*

Omnicity. We live in a world of continual surveillance, how are we complicit in this dialogue? A network of wireless cameras show live surveillance feeds of people inside the space onto mini screens. This network of micro cameras captures the visiting audience inside the space and around the installation in real-time, embedding this visual information back into the artwork/installation to involve us all as temporary participants / citizens engaging with the installation. *(A 5g facial tracking system with four cameras and four screens tracking people at you location)*

Complicity. (Urban Generation) Screens embedded into the cityscape stream live traffic feeds. Bespoke software re-works this information and adds an additional visual layer, creating a generative data visualisation of real-time city data. *(This is taking surveillance images from London)*

Capacity. The participatory experience is explored further in a dedicated skyscraper that integrates eight mini screens, which are gathering and displaying Twitter as scrolling text (customisable hashtags)

Publicity. The news and current affairs from the media shapes our understanding of the wider world yet we are bombarded with images of news and information streams that have created an infobesity as we struggle to remain connected. Images from online news and information sources are constantly fed to a small screen.

University. A custom data visualisation showing the collective flow of 80,000 temporary citizens.
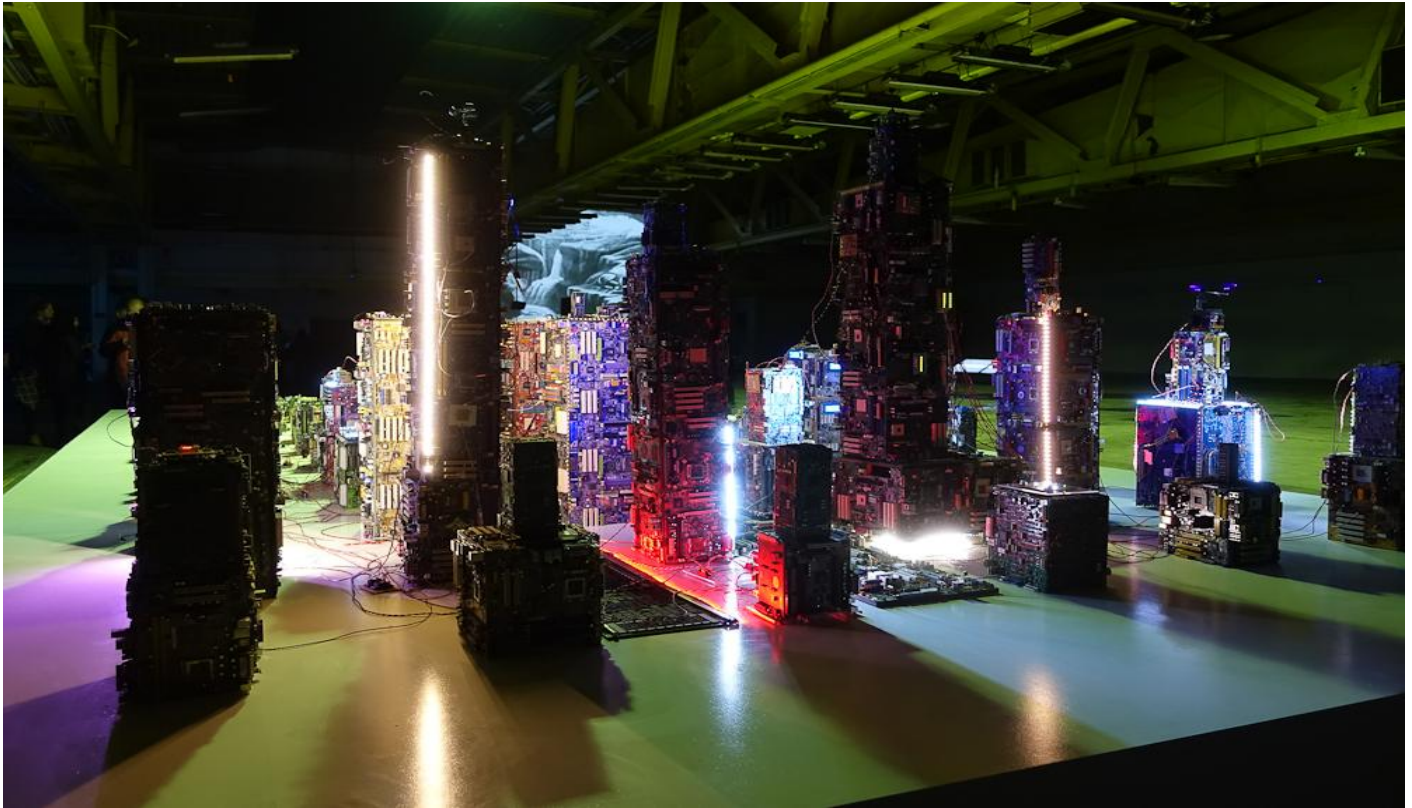
IN ADDITION
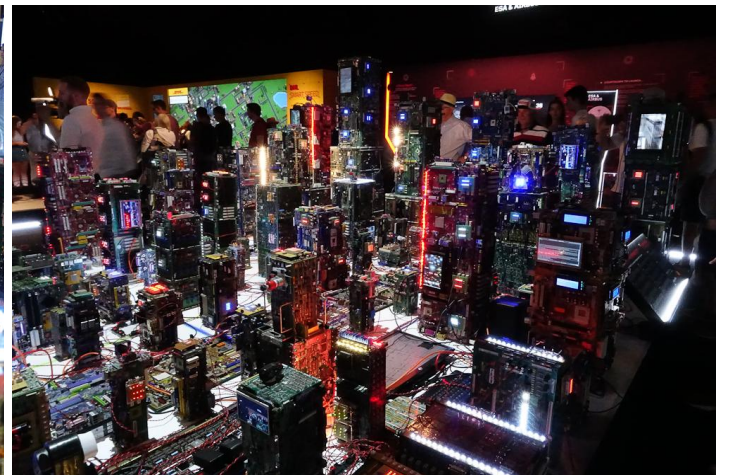
Velocity *http://velocity.stanza.co.uk/*
Imagine if everyone was tracked in real time as they visited **your venue.** Open data from Stanza's brand new phone app is shared in real-time, allowing anyone to contribute and become involved in a huge collective participatory artwork inside the installation. This allows the installation to visualise all the people visiting 104 and walking in the festival and all over Paris who have the APP. *The GPS position, movement, time, and images from participants' phones are all combined into a collective and collaborative artwork. NB*

this takes commitment by the venue to promote and get people involved and can be added as a feature and integrated into the whole installation (to be discussed)
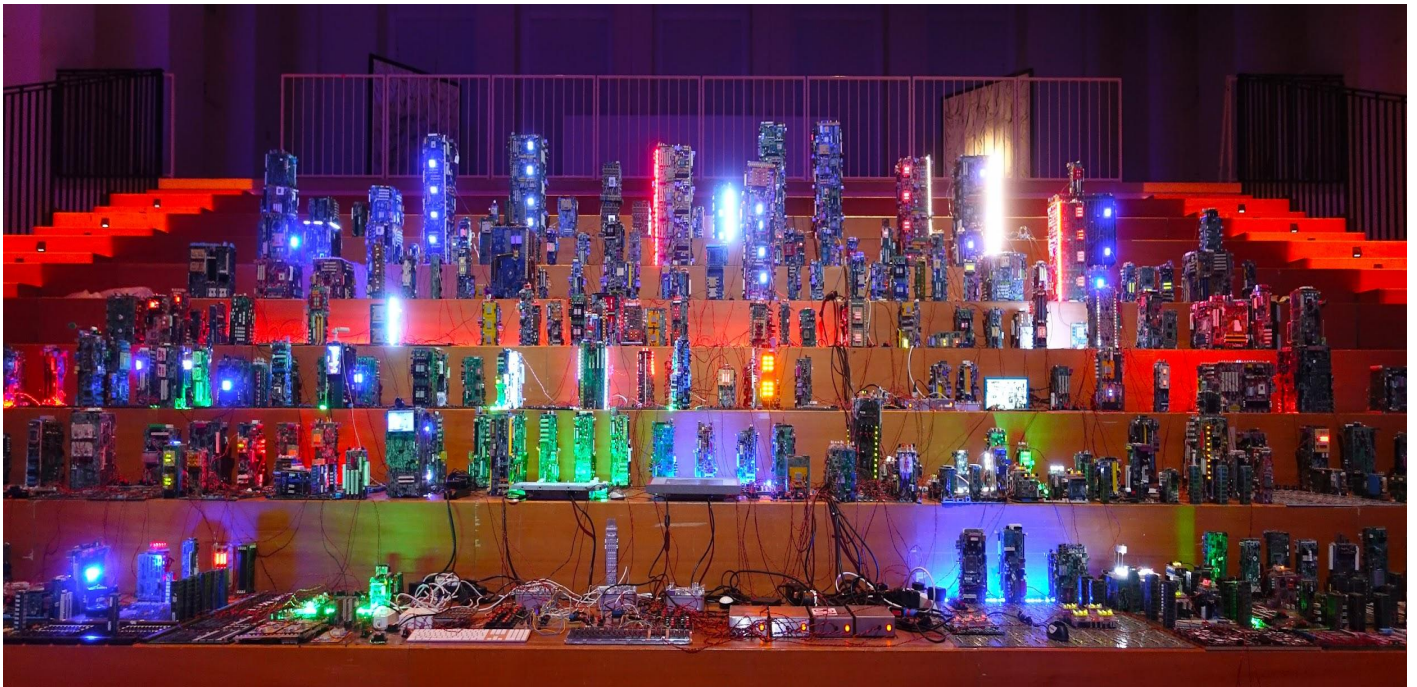
This can be shown on three 55 inch screens on the back wall (can be supplied by the artist) or on the floor or projected large if you provide projector/s and we project over the whole installation.

Seen here in Warsaw Poland 2017

Approx 50 metres in Uk . This was installed very tightly. It also has twenty mini screens inside.
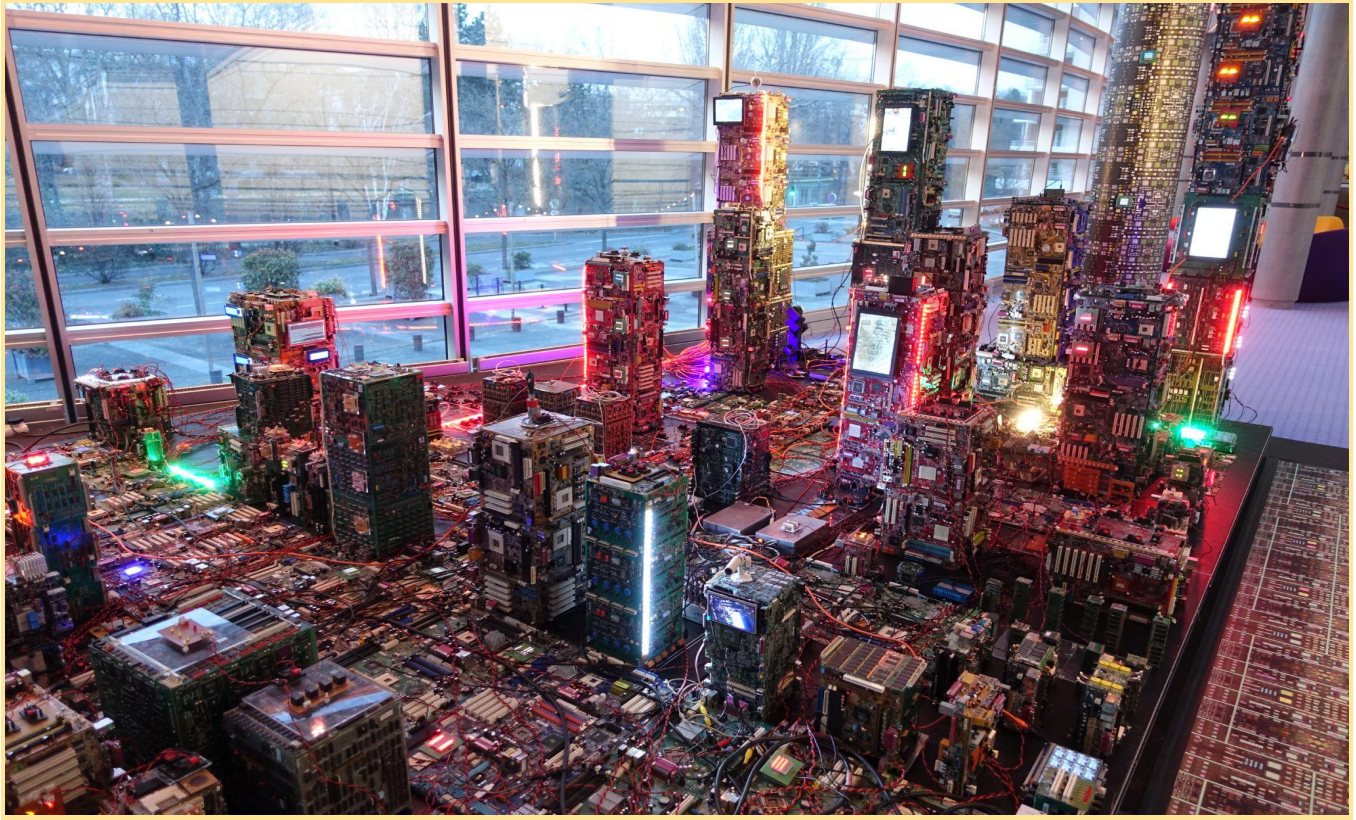
Approx 64 metres in Dresden. This was installed upwards on large stairs. It is much bigger than it looks. 2017

Largest Version ever 100 m square Mulhouse France

Largest Version ever 100 m square Mulhouse France

The Nemesis Machine – From Metropolis to Megalopolis to Ecumenopolis

THE CONNECTED CITY. The installation the audience experiences is a multi-layered expression of technology based futures focusing on big data, privacy, liquid surveillance and the ethics of open data control. It operates to demonstrate the agency and collaborative possibilities of our connected world by overlapping and layering systems and information sources in a responsible way. This city governs itself and its actions and intelligence is completely controlled by data interactions of the system. In its physical form it gives visitors a bird's eye view of a cybernetic cityscape, where skyscrapers are constructed of silicon and circuit boards. Areas of the artwork act as a frame for the different expressions of data and information which is in effect a connected intelligent city.

PHYSICAL INSTALLATION WHAT IT DOES. The actual physical presentation the audience experiences responds to smart city wireless mesh sensor networks. The environmental data represented by these systems include light, temperature, noise, sounds, humidity, co2, 02, nitrogen, alcohol and city sounds. What we see and experience are lights that respond in real-time data from the networks, motors that turn and are responsive and move, sounds can be heard from the city and as well as mini screens that have data flows on them. There are newly built customised screens with the audience inside the structures. The installation becomes a conglomerate expression of the real world made digital and then presented back to us in real time.

CONCEPT. DATA VISUALISATION. The art installation therefore becomes a huge data visualisation. What you see is a connected city of electronic components that reflect in real time what is happening elsewhere; ie an intelligent city representing the intelligent city. The city we witness and experience performs itself through an-other city. Cause and effect become apparent in a discreet, intuitive manner. When certain events occur in the real city they cause certain other events to occur in its completely different, but seamlessly incorporated, double. The avatar city is not only controlled by the real city in terms of its function and operation, but also utterly dependent upon it for its existence. The real world is made virtual and then made real again.

VIDEOS AND INFO

VIDEO 1 https://vimeo.com/689673050 (with voice over explanation In France.)

VIDEO 2 https://vimeo.com/339299723 (with voice over in Wales.)

VIDEO 3 https://vimeo.com/160264876 (In Belgium)

VIDEO 4 https://vimeo.com/237884023 (In Poland)

Website for project http://stanza.co.uk/nemesis-machineweb/index.html

DIGITAL ART EXPERIENCE.

The Nemesis Machine is an ever evolving artwork, always different and always expanding incorporating concepts of data ownership, surveillance, real time space, urban environments as well as systems based metaphors for interactive and generative spaces. The artwork creates a tension that operates critically between utopian optimism and dystopian dysfunction.

The machine is both acting to liberate us through technology with overtures to open processes, while at the same time making us complicit in its restrictive system of control. We have by default become complicit in the global surveillance machine that appropriates us (the users) as units of data to be harvested for some sort of gain (either financial, social).

The artwork has grown as a multi layered expression of technology based futures with metaphors of big data, privacy, liquid surveillance and control. It now also envelops as part of its evolution a continuous focus on the way we seek to control our space through any new technology.

What are the questions this art asks of the world? Underpinning this digital artwork, are a whole series of potential problems about observation, surveillance, and the ethics of the control space. Imagine walking out the door, and knowing every single action, movement, sound, micro movement, pulse, and thread of information is being tracked, monitored, stored, analysed, interpreted and logged. The Nemesis Machine is like Big Brother parsed through the lens of the Internet of things. It gives visitors a bird's eye view of a cybernetic cityscape, where skyscrapers are constructed of silicon and circuit boards.

The Nemesis Machine asks how new technologies can imagine a world where we are liberated and empowered, where finally all of the technology becomes more than a gimmick and starts to actually work for us. Or will these technologies as the machine suggests control us, separate us, divide us, create more borders as the machine spreads to encompass the whole world. This city governs itself and its actions and intelligence is completely controlled by data based on the interactions and flows of data.

Stanza is creating new metaphors relevant to the experience of the city and the environment. The patterns we make, the visual and imaginative interpretations we give to real world events, are already being networked into retrievable data structures that can be re-imagined and sourced for information. These patterns disclose new ways of seeing the world. The value of gathering and re-presenting this data in artistic form, and then analysing its impact and influence, lies in making meaning accessible to a wider audience.

LOGISTICAL INFORMATION.

SIZES

Medium Version   1 : 4m by 6m

Medium Version 2:   3m by 8m   (compact dense version)

Large Version 3:   5m by 10m or 6m by 7 m

Extra Large: 4:   10m by 10m (100 m square variable) (combines all three versions)

IN THE GALLERY The artwork can be shaped formally on a plinth or be placed directly on the floor and also into different spaces which can allow a more organic feel. If you want a nice clean effect it should go on the plinth.

SET UP AND TAKE DOWN (depends on size)

● All equipment is provided by Stanza. For the large version there are approx 76 -96 + Boxes now available.
● The installation requires internet access via the internet Ethernet port. It does not need a lot of bandwidth.
● Help is needed to unpack the boxes when I arrive
● Help is needed to pack up the boxes two full days. (for largest version)
Number of people needed depends on which version.
● Install 6 days. (with 4 people) Unless you want a rush install. 2-3 days (8 people needed)
● Take down 1-2 days (4-8 people needed)
● I bring all the technical equipment and set it up and take it all away.
● Transport to and from London or to an ongoing venue the venue is responsible unless agreed..

FURTHER DEVELOPMENTS OPTIONS TO GROW THE WORK CUSTOMISED TO YOUR LOCATION

There are options for more areas to be added and more systems developed as part of my research and continuing experimentation with this digital artwork if there is more budget. To summarise:- it can be made bigger and it can also include new areas which could be custom developed, to be discussed with curators.

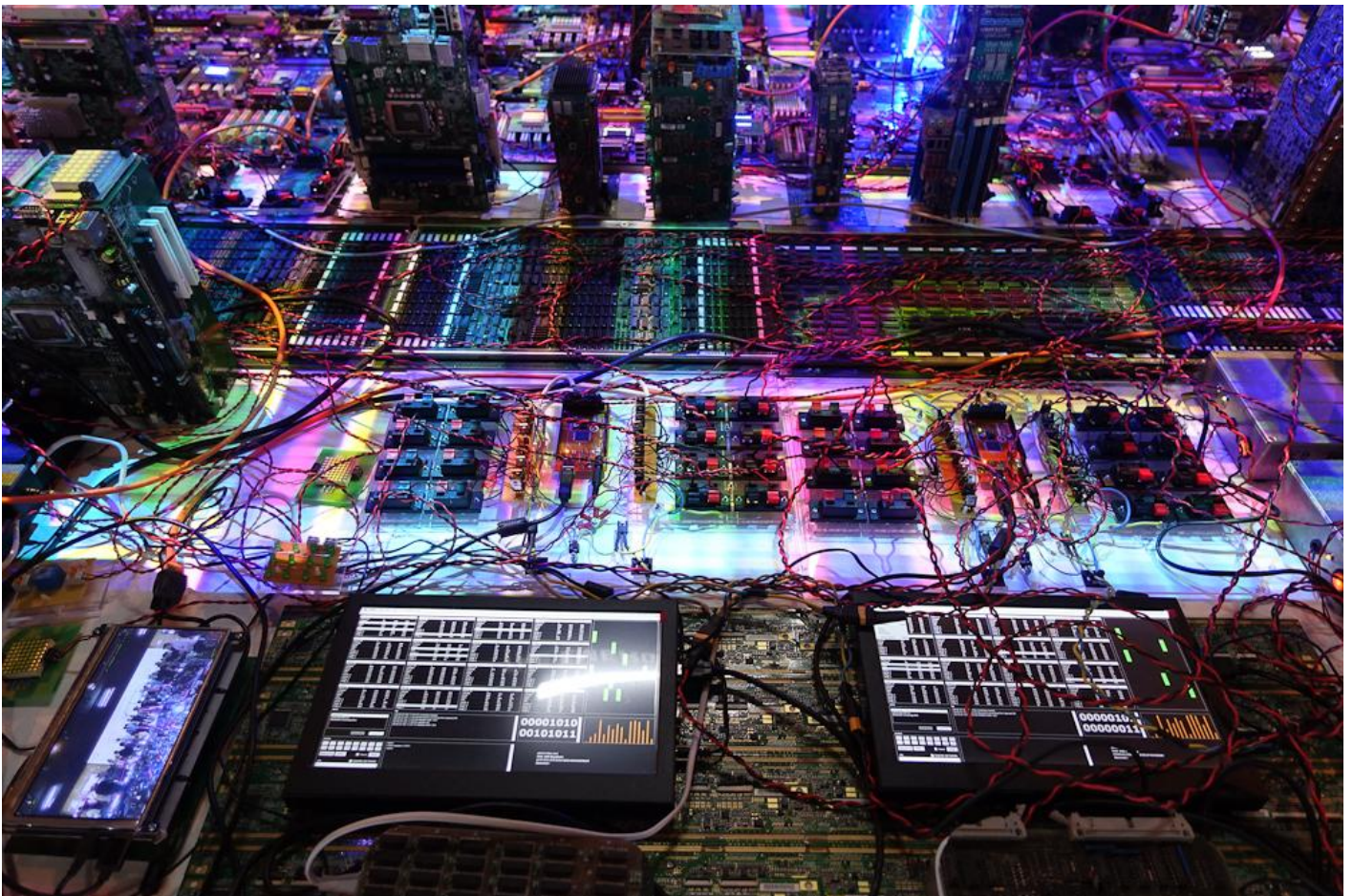**EXTRA FEATURES COULD INCLUDE:-**

1. Sections can be added and made to react locally with more types of data IE using pollution sensors.
2. System of and facial tracking surveillance to embed the audience in the work.
3. New system for MAC address WiFi reading everyone tech (phones) can also be seen)
4. Expanded to 10m by 10 m square to fill a huge space. (100 metres square or larger)
5. Data maps can also be customised to your city and location to support the exhibition for the walls.
6. Projections of live data around the space.
7. Developing the AI features + Developing the API and integrating global smart city and other data.
9 Including the new Invisible Agency Series
10 Including other software systems.

FURTHER DEVELOPMENT

This is an ever evolving and changing artwork. Stanza is developing new areas and several new concepts and data types are being introduced into the largest version while now investigating AI across the city.

I would also like to make a much bigger version <=> four times as big. If you can fund this it would be 15m by 15m up to 200 square metres and larger. The exact nature of this would depend on the space and would have several new areas built in and need a map to navigate. Curators please speak to me about this.

Show here with the optional projectional system from above. You can see the data screens which send the data to the electronics system.

At Tobacco Dock London UK (medium version 4 by 6 metres)

Conclusion. A Mini, Mechanical Metropolis Runs On Real-Time Urban Data.

Technology. The installation makes use of wireless sensors, wireless scanning technologies, surveillance networks, facial tracking and big data. All this combines to create all the agency and action in the artwork. In other words the lights, motors, and sounds only happen because of events occurring in real space. Its also includes:-

- A custom made multi mesh network of environmental sensors that send data to the artwork.
- A camera based surveillance with several hidden cameras inside the artwork.
- Another local layer of sensors; which includes systems for measuring by pollution gases no2, co2, o2, and alcohol.
- There are also several screens showing other types of city data…

The Nemesis Machine is now between 50 metres square and 100 metres square. The artwork operates within the themes of the urban landscape, surveillance culture, privacy and the connected cities.
- Poses the question of who owns the data while speculating that virtual borders will soon create more systems of control.
- The artworks represent the crossroads and ethical dilemma as machines and systems take over the world.
- The wireless sensor network is set up to "visualise" the space all around us as 'worlds' full of data across the internet.
- The artwork is an intelligent city, a hybrid internet of things (IoT) installation..
- It gives visitors a bird's eye view of a cybernetic cityscape, where skyscrapers are constructed of silicon and circuit boards.
- The avatar city is not only controlled by the real city in terms of its function and operation, but also utterly dependent upon it for its existence.
- The artwork is a mini, mechanical metropolis that monitors the behaviours, activities, and changing information of the world around us using networked devices and electronically transmitted information across the internet.

STANZA

Exhibitions.
Canal Connect, Madrid Spain *Curated by Charles Carcopino* 2021
The Kellen Gallery New York USA. *Curated by Christiane Paul* 2020
FOS Festival of Speed Goodwood UK *Curated by Lucy Johnston* 2019
DAS CUBO Bologna, Italy. *Curated by Marco Mancuso* 2019
FfotoGallery Diffusion, Cardiff, Wales. *Curated by David Drake* 2019
Cynetart Dresden Germany *Curated by Ulf Langheinrich* 2018
Speculum Artium Decades Trbovlje Slovenia 2018
Measures Of Life Lumen UK Hull *Curated by Lumen* 2018
Future Festival Nesta UK London *Curated by Ghislaine Boddington* 2018
Beyond The Seven Warsaw Poland *Curated by Piotr Krajewski* 2017
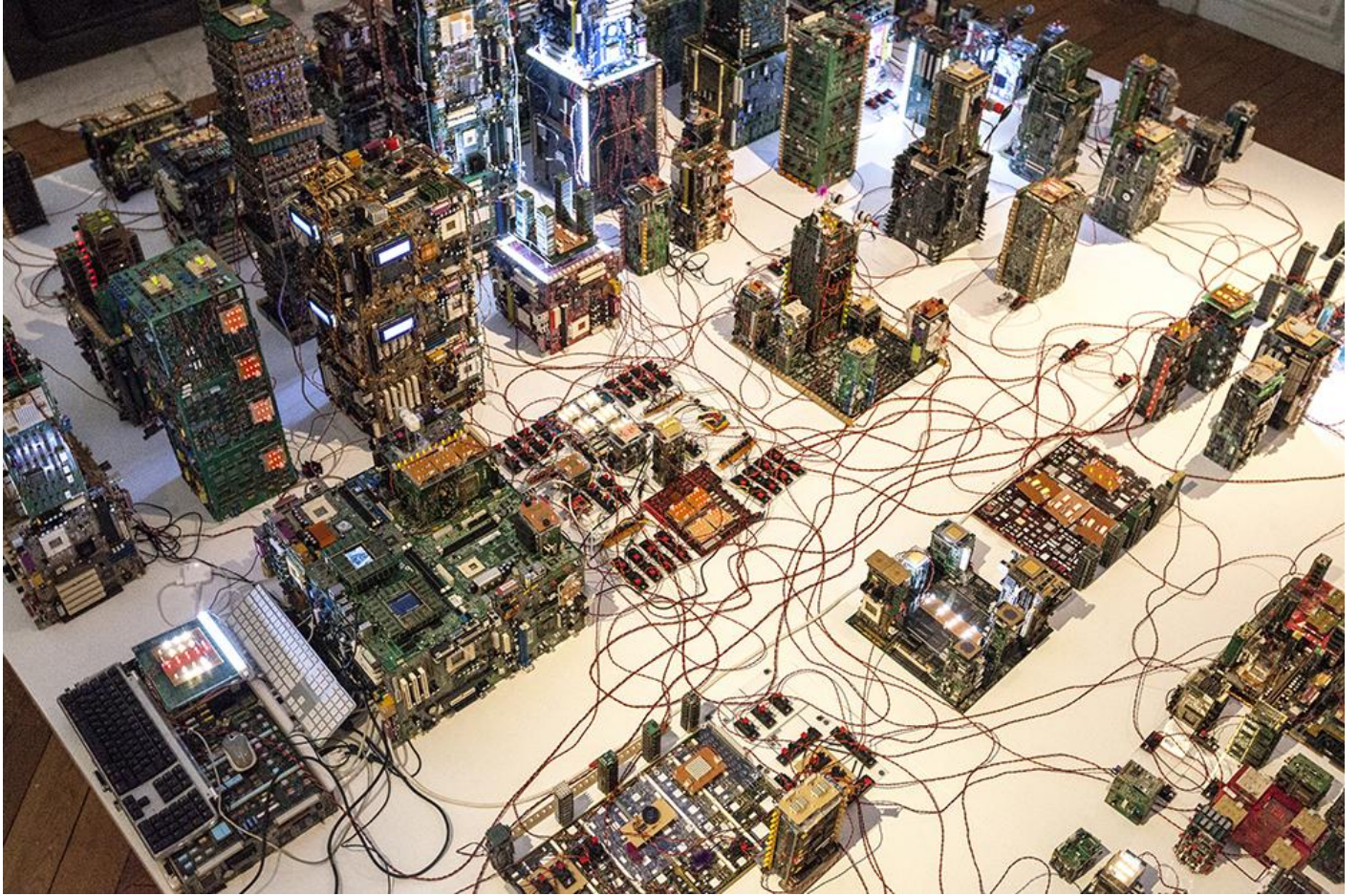York Art Gallery UK 2017
WRO Art Centre Wroclaw Poland 2017
The Internet of Things World Forum Cisco Systems. Tobacco Dock London 2017
Dundee Contemporary Arts at Centrespace (VCR) NEoN. Dundee *Curated by Sara Cook* 2016
Hacking Habitat Art of Control Utrecht Netherlands *Curated by Ine Gervers* 2016
The Intelligent City Arentshuis Bruges Museum 2015 *Curated by Till Holger Borchert* 2016
TSSK Trøndelag Centre for Contemporary Art. Metamorf Trondheim Norway. *Curated by Espen Gangvik* 2014

In large room taken with wide angle lens size approx (Large version)

Medium Version in Slovenia.

(Medium Sized Version 28 metres only seen here in Dundee Contemporary Arts Scotland)

ABOUT STANZA

Dr Stanza is an internationally recognised British artist, who has been exhibiting worldwide since 1984. His artworks have won twenty international art prizes and art awards including:- Vidalife 6.0 First Prize Spain. SeNef Grand Prix Korea. Videobrasil First Prize Brazil. Cynet Art First Prize Germany. Video Brazil First Prize. Share First Prize Winner Italy: Stanza's art has also been rewarded with a prestigious Nesta Dreamtime Award, an Arts Humanities Creative Fellowship and a Clarks bursary. Numerous commissions include work for Wolverhampton Art Gallery, Watermans Art Centre, FACT, and the Open Data Institute

His artworks have been exhibited with over one hundred exhibitions globally. Participating venues have included :- Venice Biennale: Victoria Albert Museum: Tate Britain: Mundo Urbano Madrid: Bruges Museum: TSSK Norway: State Museum, Novosibirsk: Biennale of Sydney: Museo Tamayo Arte Contemporáneo México: Plymouth Arts Centre: ICA London: Sao Paulo Biennale: De Markten Brussels: Transport Museum London: Ars Nova museum.
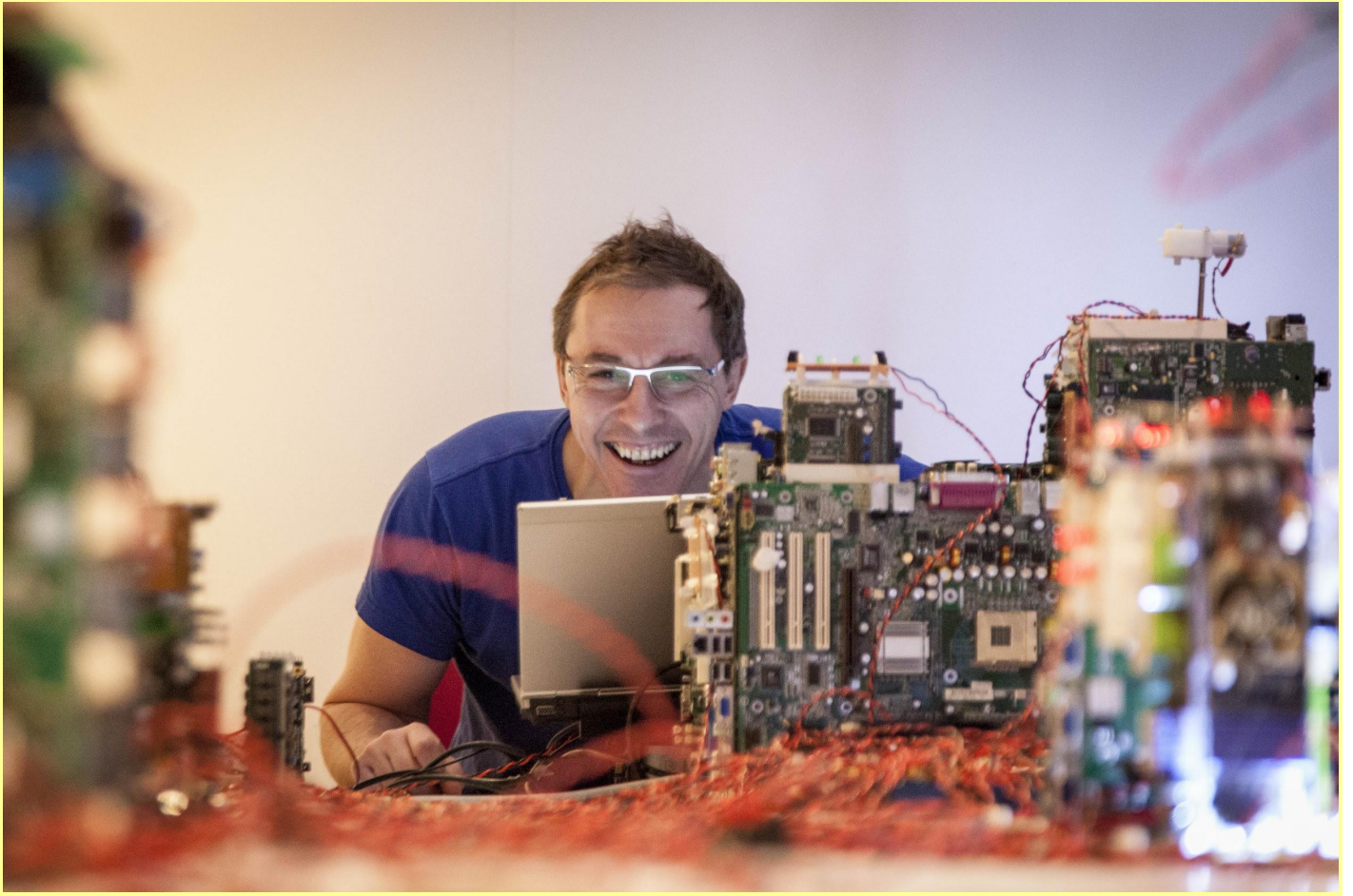
Stanza artworks since the mid eighties have focused on the participatory system the 'city' that frames questions within his work opening up conversations about the politics of space. He creates investigations about the construction of space, the environment, and landscapes you cannot see. Selected artwork monitors the behaviours, activities, and changing information of the world around us often using networked devices and information across the internet. This can include observation by means of custom made sensors, networked cameras and computers. Stanza reforms this information and data creating what he calls parallel realities.

Recurring themes throughout his career include the urban landscape, surveillance culture, privacy and alienation in the city. Stanza is interested in the patterns we leave behind as well as real time networked events that can be re-imagined and sourced for information. He uses multiple new technologies to create distances between real time multi point perspectives that emphasise a new visual space. The purpose of this is to communicate feelings and emotions that we encounter daily which impact on our lives and which are outside our control. The results can be aesthetically beautiful maps of data or information such as personal interests, beliefs, and large scale installations representing weather, environmental, pollution and traffic data.

Stanza presents the city as a control system and various art projects have been made using live real time environmental data, surveillance and security data, news and real time information systems. The artworks 'The Emergent City' , 'Sonicity', 'Urban Generation' reform data, working with the idea of bringing data from outside into the inside, and then present it back out again in open ended systems where the public is often engaged in or directly embedded in the artwork. Interactive and visually appealing, his style also maintains the substantive power through multi-faceted content.Stanza was one of the first to use internet art as a medium. Since 1995 his websites, net art and generative artwork have been one of his major artistic outputs.

Online projects by Stanza include:- His main Netart archive (www.stanza.co.uk/projects_netart.html) as well as www.soundcities.com (The global soundmap project) . Other net art projects include www.genomixer.com (DNA system artworks) www.thecentralcity.co.uk (urban and city systems) www.amorphoscapes.co.uk (generative paintings) and www.soundtoys.net online generative art portal).

Educated in art at Goldsmiths College in the early eighties he later went on to study at Greenwich University and Central Saint Martins Art College London. Stanza returned to Goldsmiths College as a AHRC arts research fellow.
His mediums include; netart, paintings, videos, installations, software systems and public artworks.

Artist Name: Stanza

www.stanza.co.uk

London UK +44(0)7701309802

stanza@sublime.net

STANZA