Out of the Box

The Midlife Crisis of the Digital Revolution

Ars Electronica Festival 2019
5 – 9 September, in Linz

Press tour on 8.9.2019 with

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40 years of Ars Electronica, 40 years of digital culture:
The Digital Revolution and its Midlife Crisis

(Linz, 8.9.2019) Founded in 1979 by Hannes Leopoldseder, Herbert W. Franke and Hubert Bognermayer in Linz, Austria, the Ars Electronica Festival will celebrate its 40th anniversary this year. From 5 – 9 September, the festival for art, technology and society will mark this anniversary together with pioneers from four decades of digital culture as well as artists, scientists and developers that are treading new ground today and shaping our future through their work.

As Ars Electronica turns 40 this year …

While it is true that digital technologies have merely accelerated processes already unfolding across the industrialized world, they have changed our world and our lives radically over the last four decades. From the outset, Ars Electronica has viewed this as a societal rather than a technological development and the festival has focused not on technologies but on their impacts on our lives. Ars Electronica has explored the nexus of art, technology and society since its inception and this perspective continues to be the secret of its success.

… the digital revolution is having a midlife crisis

This year, as Ars Electronica celebrates its 40th anniversary, the digital revolution appears to be stuck in a midlife crisis. Joined by experts and a broad public, the festival will take pause to survey the lay of the land: Where are we and how did we get here? What kind of digital society do we want? How can we get there? And how can we make good on the biggest mistake of the last forty years: How can we wrest control of our futures from a handful of corporations that make billions in profits while externalizing all of the democratic, social and environmental costs of their activities? Taking up this challenge, the 2019 Ars Electronica Festival is stepping "Out of the Box" and inviting visitors to imagine a new future: It's time for us to resign our roles as mere consumers and data-generating machines. We must take responsibility for our futures. Europe is set to play a key role in this process…

Wanted: A pathway to a digital society …

On Sunday, 7 September, Ars Electronica is all about European visions of the future. With exhibitions, a major conference and a host of talks, lectures and workshops, Ars Electronica is positioning itself as a European platform for "Digital Humanism" as it initiates a wide-ranging debate.

... that embodies European values

How, the festival will ask, should Europe respond to the "data capitalism" of the IT monopolists and the "data totalitarianism" of authoritarian regimes? Or, in other words: Is it possible to create a digital society that fosters competition and generates value while also reflecting European values?

With the success of new services increasingly depending on the credibility of their providers and the trust placed in them by users, there is good reason to believe that this vision could be made reality. In light of this, a large number of EU projects and initiatives have embraced the goal of expanding the roles of art, creativity, and education in the development of technology in order to develop new concepts and alternative options for action. Ars Electronica will put them in the spotlight.

Best Practice 1 / A New Model of Urban Planning for All of Europe

In Barcelona, innovation agency 300,000 km/s has pioneered a completely new approach to urban planning that delivers quality of life by reconciling economic growth with sustainability, making wise use of classical instruments such as citizen surveys and discussion events as well as new technologies like AI:

The context: Barcelona is a city of 1.65 million citizens, with more than 7 million visitors to the city every year. It is the second most densely populated metropolis and one of the three most visited cities on the continent. While this has many positives for economic development, it presents challenges for sustainable urban planning.

Phase 1: The research phase commenced in October 2016 with the preparation of four preliminary studies. The studies examined the city's urban fabric and the implications of nocturnal noise for human health as well as tourism trends and their impact on local trade. All of the information gathered in these preliminary studies was combined in a data atlas. The atlas is a collection of cartographies detailing physical and socio-demographic characteristics, as well as the types and extent of various economic activities, the routes taken by citizens and visitors, and adverse effects on the health of residents.

Phase 2: The co-creation phase built on the findings of the research phase and focused on fostering the participation of residents and local business people. The range of formats used included workshops, public events, interviews and discussions in online forums. The project also engaged with the city council. Engaging in this comprehensive process of data collection, enabled citizens to gain sovereignty over certain data and empowered them to participate in decision-making at the local level. The municipal authorities were also presented with a proposal for a system for the evaluation of urban planning activities and policies that would enable comparisons between cities.

Phase 3: The proposal phase focused on the development and simulation of different scenarios. The models anticipated the urban impacts of different economic activities

including noise emissions, pollution and traffic density, and informed the development of a master plan.

Phase 4: The approval phase opened with a public information campaign. Feedback gathered from different actors on the project was subsequently incorporated into the master plan. In February 2018, "Ciutat Vella's Land Use Plan. Big Data, KDD and Citizen Participation to Ensure Coexistence between Economic Activity and Citizens' Quality of Life" was finally approved. Since then it has helped to maintain and enhance the quality of life in urban areas.

"300,000 km/s" understands urban planning as a tool to safeguard and develop the liveability of urban spaces within the context of a market economy. Their work aims to create cities in which local economies flourish and citizens are able to lead fulfilling lives. The project was awarded the 2019 STARTS-Prize in the category "Innovative Collaboration" of the European Commission.

Best Practice 2 / Human-centered Technology

A "Brain-Computer Interface" (or BCI) establishes a direct connection between the human brain and an electronic device. Measuring brain activity in real time, the BCI translates these signals into commands that can be used to direct interactions. Machine learning, dry electrodes, wireless signal amplifiers and other new technologies are driving the evolution of ever more powerful and versatile BCIs. These interfaces are already being used across a range of neuro-scientific applications with great success, including in stroke therapy, the assessment of the consciousness of comatose patients or patients with ALS, for communication and the control of robots and prostheses as well as in cognition training and neuro-marketing. Austrian company g.tec neurotechnology is a leading developer in this field:

Based in Schieldberg in Upper Austria, their team develops modern BCIs and neuro-technologies that are used in research applications and clinical practice around the world. Two systems developed by the company have garnered attention recently: "recoveriX" is set to revolutionize stroke therapy; and the "mindBEAGLE" research project to assist comatose patients is already delivering promising results.

At the 2019 Ars Electronica Festival g.tec neurotechnology will host the BR41N.IO Hackathon: a 24-hour brainstorming marathon that will see programmers, engineers, designers and artists develop, build and present innovative BCIs – an opportunity to get out of the box and tread new ground!

Best Practice 3 / Art Thinking for Sustainable Future Strategies

The Ars Electronica Futurelab views art and artistic thinking as a strategy and attitude that provides orientation in an increasingly complex world. The team at the renowned studio-lab develops prototypical future scenarios that aim to generate dialog with and within the

general public. Examples of this practice of "Art Thinking" will be showcased in the "Open Futurelab" at the Ars Electronica Festival:

In collaboration with Bandai Namco, the team in Linz is researching whether and how playful artistic strategies that convey complex ideas can also be used to communicate other, socially relevant content. "Funguage" (coined from "fun" and "language") is the motto of this project.

The Ars Electronica Futurelab will also be lifting the lid on its research on swarm robotics. Originally established as an art project for Klangwolke 2012, the team has been researching the interplay of people and autonomous vehicles and developing scenarios for practical applications. The resulting "SwarmOS" software is an operating system for swarms that facilitates the use of autonomous drones, cars, robots or ships by emergency response services as well as in farming and many other areas. The team is also collaborating with Japanese telecommunications company NTT on a "Swarm Arena", for research around the use of robot swarms for communication.

Another best practice example of "Art Thinking" à la Ars Electronica Futurelab was this year's Big Concert Night, an Ars Electronica tradition developed and implemented in cooperation with the Bruckner Orchester Linz. The motto of this year's concert was "Mahler Unfinished". Led by Chief Conductor Markus Poschner, the Bruckner Orchester Linz performed Gustav Mahler's unfinished Symphony No. 10. The evening also saw the premiere of a work composed by MuseNet of OpenAI – one of today's most powerful AI systems. The artificial neural network generated its work based on just the first ten notes from the viola theme at the beginning of Symphony No. 10. The resulting work was orchestrated by Ali Nikrang and Markus Poschner and performed for the first time by the Bruckner Orchester Linz as part of the Big Concert Night. "Mahler Unfinished" shows that new technologies can open up new spaces of creativity and lend us new forms of expression. It is up to us – and not the technology – what we make of this.

Best Practice 4 / A Next Generation Future Festival

CREATE YOUR WORLD is Ars Electronica's next generation Future Festival – a center for creative projects, a playground for unusual ideas, a lab for exciting experiments and a forum for constructive protest. A veritable "festival within the festival", CREATE YOUR WORLD is a space for artists, tinkerers, lateral thinkers, curious minds, future enthusiasts and activists of all ages – a place for everyone who wants share their ideas, try out new technologies, and plan a new future together. The motto: Come, be inspired, join in! The mission: Get involved and help shape the future! The best example of this practice is the now global movement of school pupils fighting for their future:

"Fridays for Future" has crystallized around the demand that governments and societies finally make good on long-standing goals and promises to protect the climate. Until progress is made towards this goal, school pupils around the world will continue to take to

the streets to make it clear that it is their future and that of future generations that is at stake. The first demonstrations of the 2019/20 school year took place two days ago, on Friday, 6 September, with a "festival shutdown" at the Ars Electronica Festival followed by a march in Linz. This will be followed by "Your Town for the Future" on 20 September and "Earthstrike" as part of the "Week for Future" from 20 – 27 September. With strikes and protest actions, the "Fridays for Future" movement wants to motivate people of all ages to stand up for climate action and justice: we can overcome the challenge of climate change if we stand together!

Statements

Alexander Van der Bellen, President of the Republic of Austria

"Europe is advancing a range of initiatives aimed at building closer links between art, technology, science and business – and when you look around here at Ars Electronica, it's easy to see why! Artists, scientists, developers and entrepreneurs are working together here as equals to create new solutions that not only deliver economic benefits but that are also socially and environmentally sound. To support this approach, we need even more openness, more cooperation and more Europe in the future. Or, to quote the theme of this year's festival: We have to get out of our comfort zones, abandon our old ways of thinking and get "out of the box"!

Roberto Viola, Director General of DG CONNECT (Directorate General of Communication, Networks, Content and Technology) at the European Commission

"In order to ensure that the digital revolution continues to benefit European citizens, we must develop a nuanced and European perspective on digital innovation – one that puts people first. Technology design should be rooted in empathy, and European developers must engage more with those affected by technologies. Over the last 40 years, Ars Electronica has taught us that art can play a crucial role in achieving this. And it was this insight in particular that inspired the European Commission's STARTS Initiative, which promotes collaboration across science, technology and the arts as part of a distinctively European approach to the development of digital technologies with a human touch. As part of this mission, the European Commission has also teamed up with Ars Electronica for the new 'AI x Music Festival', which explores the intersection of artificial intelligence and human creativity, and engages with music as a paradigm for all things human."

Doris Lang-Mayerhofer, City Councilor for Cultural Affairs and Chair of the Ars Electronica Advisory Board

"The future of Europe must also build on European values in digitalisation. Therefore, more than ever, it is not just about progress or new technologies, but about people. It is precisely this question that Ars Electronica is addressing in the course of a whole series of Europe-wide initiatives. In all these projects, artists act as important impulse generators by dissolving entrenched patterns of thought, breaking taboos, opening up new perspectives and outlining alternative paths. A look into the 40-year history of Ars Electronica alone reveals the enormous potential of art as a driving force and corrective for social and economic development!

Gerfried Stocker, Artistic Director Ars Electronica

"We are standing on the threshold of a new era: After equipping our devices with sensors and teaching them to see, hear and touch, we are now endeavoring to digitize thinking and decision-making using artificial neural networks. As we transition from automation to autonomy, it is up to us to determine the roles that people and machines will play in the future. It is important that we create a digital society that does not simply follow the dictates of economics, but that is committed to upholding European values. Within this process, art can make an important contribution."