

**Hong Kong Arts Development Council
International Arts Leadership Roundtable 2017**

Plenary 2: Applying Technology in the Arts

Art to Inspire Technology – An Exploration of Value Creation

**Full transcript of speech by
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I'm Andy Stratford, Managing Director of Future Everything, a cultural agency that has delivered the UK's Digital Arts Festival since 1995 and works across the arts and technology sectors in Asia and Europe.

The UK has built an international leadership role in the creativity economy and I'm here to share with you the next wave of innovation. I'm going to talk about a novel way the arts can generate value and have an impact in other industries and I'm going to show how this can lead to revenue for the arts and to outstanding culture. How do we do this? By evidencing how the arts can demonstrate value in and for other sectors, specifically technology and city innovation.

To illustrate this point, I will introduce some problems facing the data and technology industry; I will then show how the arts might solve that problem; the value this generates; and how we can measure and demonstrate this value.

This is FutureEverything. (Image shown) Many of the cultural programmes we have delivered have addressed the social impacts and consequences of a digital revolution. The case study I will briefly present has been developed in the context of large-scale cultural and technology programmes in Europe and in Asia. One of these was the [Smart Nation Singapore](#), where we were commissioned by the Singapore Government to deliver a digital culture component of the Singapore's 50th Anniversary celebrations. We supported the government to include art and culture in this flagship technology development programme.

Another project is [CityVerve](#), the UK's Internet of things or IoT. You're going to hear a bit more about IoT, Smart City Demonstrator (the Smart City), where we made a case for art and culture to be included as a project theme, and in the European IoT large-scale pilots, we are supporting the combination of art and IoT to stimulate innovation and raise awareness of key issues around big data, around privacy, and around accountability.

So in order to explain how art can inspire technology and the value it generates, let me introduce one of the problems the technology industry faces that the arts could uniquely solve. This is the central concern and the main barrier to market development in industries such as the IoT and it's the biggest roadblock to citizen uptake of new

technology – Trust. Trust is the currency in user-driven technology. Without trust, there is only one outcome and that is market failure. The reason trust is such a vital issue is illustrated by this quote:

“Ubiquitous computing has as its goal the enhancing of computer use by making many computers available throughout the physical environment, but making them effectively invisible to the user.” (1993)

And check out the date, Mark Visor's vision was that the computing would just disappear into the world around us, it would not look like a computer with a screen and a keyboard. The computing device would look like a cup or a switch or not be seen at all, and today, slightly scarily, this vision is being realised with the Internet of things (IoT).

Today, computing and data systems are increasingly pervasive in the built environment. As we move through the city our interactions with our phones, with city infrastructures, the operation of systems we use all depend on, from transport to energy, are constantly creating data so that data just flows through the urban environment. This image illustrates not only that technology are hidden from view, but also their complexity. The metaphor here is that using an IoT service and trying to work out where the data has originated from, is like standing at the mouth of the Amazon River and trying to determine which of the countless tributaries an individual drop of water has originated from. This makes it incredibly difficult to attribute accountability if something goes wrong.



So the how can art help address this challenge? One way might be transparency. I'm going to present an artwork we developed as part of the UK's IoT Smart City Demonstrator CityVerve.



This is *Everything Every Time*, by Nahu Matsuda. The artwork consisted of moving displays installed across the city of Manchester. The displays presented seemingly random lines of poetry about incidental happenings in the city but in fact were generated from data recording events in the city.

The CityVerve artwork was conceived as the first implementation of an important technology innovation, the City Verve API or application protocol interface, a single access point to all data in the city. In the end it turned out that the pace of artistic innovation moved faster than the pace of technology innovation. The artists were ready but the technology was not. The City Verve API was not ready to go. But the artists

were very, very capable technologists themselves, and they built their own data platform and their own API for the artwork. The artwork consisted of these beautiful flip dot displays. These were reclaimed from buses and repurposed and created aesthetic of the screens installed through the city to display the poetry.

The artists also curated and selected their own data sets, looking for interesting data that revealed a surprising perspective on a city that you do not ordinarily see. They also inserted some more playful data based on sound inferences that the artists' own interpretation, with the idea of posing questions to the audience about whether the information was true or related to them. The artists' interest was to lead people to question the city systems they might otherwise take for granted or not even see.

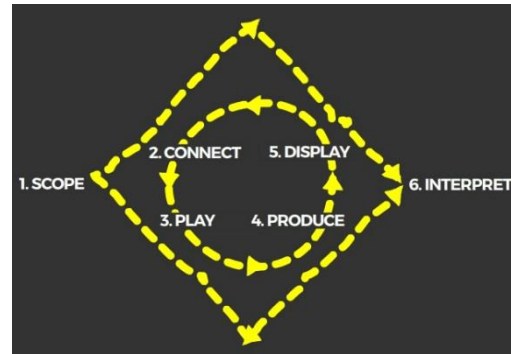
Here you see Nahu Matsuda, the lead artist, with two other fault lines artists. In the quotes are some sort of in Nahu Matsuda's motivations for developing the work. In this next short clip we can hear her explain in her own words. (Film clip played)

To understand the impact of this work our researchers spoke to partners and the audience, the technology partner with Cisco systems and the lead technologist on the project adopted the artist's language and interesting leading people to ask questions about the systems. We also spoke to technology industry people who experienced the work. They reported the work introduced them to new ways of representing data and also that they would be more likely to use the data service commercially having seen the work.

So back again to the title, "Art to Inspire Technology and Value Creation". Recently our focus at FutureEverything has shifted to demonstrating the value and impact of artistic collaborations for non-arts partners and also developing tools and methods that others can adopt. And this is in the context of Science, Technology and the ARTS. Or as we now call it in Europe, "STARTS".

The outcome of artistic practice and research is the open prototyping framework, a process model developed specifically for arts science collaborations. This involves six phases. In the scoping phase, artistic research and critical thinking introduced novel framings of concepts, challenges or capabilities and in the connect phase, open prototyping builds connections ownership and trust between partners and teams among citizens and service users. And during play, the unique skills of artists can explore limits of technologies, ideas, materials and applications. In the producing of work, novel interfaces and open infrastructures can have imaginative dimensions to the Smart City. And when work is displayed, art makes visible and legible systems that are hidden or complex and enables a wide audience to experience future scenarios. Interpretation of the work can build transparency, judgment, agency and trust in the way people interact with data systems.

This is a visual representation again of the six-stage process. It has been developed more as a tool for intermediary organisations to design, deliver and to evaluate art or STARTS collaborations and provides a scalable framework or process to which an artist or technology organisation or facilitator can refer. I say scalable as an artist may only use the centre circle Stages 2 to 5 or a piece of work maybe produced often in a more R&D context so using scope, play and connect.



So through research we have analysed the outcomes to determine the attributes of each stage and the value that they have to artist and the value that they have to technology partners.

So, art to inspire technology and how we can think about art and value creation, to summarise, are two key contributions which support the idea that art has a meaningful role in value creation in a technology innovation context. Combining art and IoT can stimulate innovation in city data systems and literacy and agency, underpin trust and acceptance. I look forward to discussing these ideas further. Thank you.

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