POLICY BRIEF #3

DIGITAL TECHNOLOGIES AND THE ARTS

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EPIC

Europe's ICT innovation partnership with Australia, New Zealand and Singapore

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Recommendations

Ways in which Australia and the EU can collaborate to foster art/science and technology interactions include:

* Foster dialogue between art/science and digital technologies (p. 3)

* Promote inclusion, empowerment and cooperation (p. 3)

* Include cross art/science education and training opportunities (p. 3)

* Make available funding possibilities that incorporate both fields (p. 3)

* Support further research and critical discussion to improve our understanding of international art/science interaction and its relation to citizens as well as its impact on innovation (p. 3-4)

SUMMARY

Societies worldwide are experiencing technological change at an unprecedented pace. While this is true for many areas of technology, it is especially visible and fast relating to information and communication technologies. Changes induced by digitisation are affecting societies at many levels. New computerised systems provide many of our everyday services and have become pervasive in both our private and professional lives. In addition, they have become our means of communication, of starting new partnerships, of artistic expression, and assist in understanding who we are.

Digitisation thus not only prompts business changes, but also changes in scientific practices, governance, and in the arts. Indeed, the arts have become a key actor in helping us to understand developments in the digital world, assessing their potential consequences, and making the most of their undoubted potential. Institutions and governments around the world have started to acknowledge the potential of art/science and technology interaction. At the same time, high-tech companies build on the creative ideas of artists to accelerate innovation or develop entirely novel points of views in close cooperation with research labs.

DIGITAL ART/SCIENCE INITIATIVES ESTABLISHED IN AUSTRALIA & THE EUROPEAN UNION

In Europe, the European Commission fosters art/science and technology interactions as part of its S+T+ARTS[1] initiative, which is built on the rationale that the funding of art-science interaction can stimulate innovation. S+T+ARTS' main objective is to fund the participation of artists in science and technology projects in the form of residencies. The residencies often result in physical works of art, installations or performances that reach out to broad audiences in exhibitions or at art and science festivals.

For close to a decade, the global Science Gallery Network[2] has also been at the forefront of encouraging public engagement with science and art. With European nodes in Dublin (since 2008), London, Rotterdam and Venice, the Network has expanded globally to Detroit, Bangalore and Melbourne, Australia. Each node is affiliated with a leading university that plays a crucial role in igniting creativity and discovery through its programming. Unique, transdisciplinary exhibitions, events and educational programmes aim to engage young people in connective, participative and surprising ways.

There are even joint initiatives. Ars Electronica, one of the world's most renowned festivals for the electronic arts, originated in Austria and has now expanded overseas, with Ars Electronica Australia being a recent arrival. Working in a non-franchising model, Ars Electronica is responsively expanding its reach through an emerging, organically growing network of people and activity. Ars Electronica Australia is a consequence of over five years of co-created endeavours and activities that continues to build upon

the vision and legacy based on the tenets of Ars Electronica. Ars Electronica Australia is a growing organism powered by Art Thinking (licence holder) that embraces Ars Electronica's 40-year tradition of exploration at the nexus of Art Technology and Society.

Case study #1: From exhibition to living lab

Science Gallery Melbourne[3] (Australia) was created as part of an effort to reach out to young people – especially between ages 15 to 25 – seeking to connect with its host institution, the University of Melbourne, by exploring collisions of art and science. The aim is to illustrate new and uncommon ways to engage with science to this demographic. Science Gallery Melbourne organizes dedicated exhibitions, often around special themes, and invites artists to create works that take inspiration from research or build upon ground-breaking innovation. Artworks are usually physical objects and most often with an interactive element. This helps visitors better understand the impact of the individual, the self and society, as well as the impact of science, on the future of humanity. The gallery is currently operating in a pop-up state while the purpose-built gallery is being constructed. From 2020 onwards, Science Gallery Melbourne aims to attract more than 250,000 visitors per year - including from regional Australia and underrepresented groups.

Science Gallery Melbourne is unique in providing a hybrid gallery environment that serves a dual purpose as research environment. The scientific community is invited to participate in artist-driven art exhibits, and vice versa: scientists are given opportunities to showcase ground-breaking academic research. As the gallery turns into a living lab, unique opportunities are created to study user interactions and user-generated feedback in a real-life environment, taking advantage of the heterogeneous and diverse demographic that Science Gallery Melbourne aims to address.

Case study #2: Ars Electronica—Ars Electronica Australia

Ars Electronica[4] has followed, anticipated and analysed the digital revolution and its origins, its successes, even its follies. As a festival for art, technology and society, as well as the cultural and social significance of new technical and scientific developments, Ars Electronica has always been at the forefront of this discourse. The festival originated in 1979 Linz, Austria where it now attracts more than 100.000 visitors each year. It was designed to take the Digital Revolution's emergence as an occasion to scrutinise potential futures and to focus these inquiries on the nexus of art, technology and society. This idea has now been taken up around the globe.

Ars Electronica Australia[5] was initiated to create opportunities that inspire and empower people to imagine, discover and act in Australia. The focus is always on current developments and possible future scenarios; asking the question 'how these will change our lives?'. Working with individual artists or at city scale, Ars Electronica Australia is intent on bringing the unique creative ecosystems of Ars Electronica to Australia. Building from the platform of the festival, the historic proving ground and DNA of Ars Electronica, the Australian node's aim is to ignite curiosity and action within the industry, in education and in the community. The current short-term scope of business includes education & community of practice, broad dissemination of Art – Technology – Society principles through the festival and programme platforms, and research activity. Through building a community of practice it will facilitate an artistic - scientific think tank and studio lab, based on the Futurelab model. This model is active in research and prototyping 'future sketches' that invite discussions and reflections on future concepts and

their meaning for our society within our society. The Festival is a key moment of amplification that promotes open access, diversity of voice and broad communication of these ideas and discourses - exampled and discovered through display, presentation, symposia, workshops, and participatory engagement mechanisms.

POTENTIAL FOR EU-AU DIGITAL ART/SCIENCE COLLABORATION

Australia and the EU share a common history and many fundamental values. However, there are also important differences such as geographical positioning, population characteristics, international trading partners, and economic strongholds. Both jurisdictions are experiencing rapid transformations of their societies, at least in part caused by digitisation. New cultural and societal challenges are emerging that provide a rich source of critical and constructive artistic and philosophical discourse.

The question of how to engage citizens in science and how to accelerate the process from scientific results to innovation is high on the policy agendas of both the European Union and Australia. Art/science and art/technology initiatives are now playing important roles, further facilitated by significant initiatives such as Science Gallery Melbourne and Ars Electronica:

∗Many art/science initiatives and festivals are international by nature.

Australian and European artists share many practices and already meet regularly at science festivals and other events in both the EU and Australia.

∗The art/science environment – especially in the digital arena – is highly dynamic and generally less competitive than in industry.

There is usually no fear of losing intellectual property and no compet-

ition for markets. This makes art/science collaboration a particularly fruitful area for cooperation initiatives.

*In addition, small amounts of funding can trigger interesting and durable collaborations.

Typically, artist residencies and commissions start with much smaller price tags than many basic digital research and innovation projects.

*Finally, the international dimension of art/science collaborations and the aesthetic attractiveness of many resulting artworks that often reach broad audiences appeal to policy makers.

Festivals and galleries involved in art/science work can be platforms for policy statements or for kick-starting initiatives. They are strongholds of public debates about future technologies, and they frequently attract policy and decision makers from diverse backgrounds and responsibilities.

CURRENT STATUS & RECOMMENDATIONS

Despite its potential, international cooperation for digital art/science initiatives to date was mostly limited to the field of arts. This is surprising given that art/science interaction has now become internationally recognised as a potential driver for improving our understanding of digitisation and a potential accelerator of innovation. Where art/science initiatives exist, they often fail to take into account the full cycle from outreach to citizens as drivers of science and research. Promising changes to the traditional model include specific requirements for public outreach and public engagement in academic grants, e.g. as seen in some Australian Research Council grants.

#1 Dialogue between art/science & digital technologies

•Establish an open dialogue and invite creative minds, including artists, to contribute based on their own creative experiences and work.

•Create opportunities for researchers and engineers to include artists in their research projects – across the continents.

•Support experiments with artistic long-distance interactions facilitated by digital technologies using state-of-the-art and forthcoming technologies.

•Involve citizens in digital art/science projects, both as a form of civic engagement and contribution to active research.

•Inform researchers, scientists, and engineers about the potential benefits of art/science interactions for reaching out to citizens and thus gaining public support for their work.

#2 Inclusion & empowerment

•Promote global-level dialogue and cooperation between engineers, researchers and artists while at the same time increasing local awareness through exhibitions, round tables and other formats open to broad public interaction.

•Inform industry about the potential benefits of art/science interaction for innovation and the early adoption of new technologies. These advantages range from the creation of durable artworks that support sustained dialogues, to the power of artists to co-create innovation in cooperation with citizens and novel feedback loops from artistic interaction with citizens to research.

•Facilitate residency of artists into industry research culture, inspired by globally renowned organisa-

tions such as: CERN, MIT Biolab, Welcome Foundation, and Ars Electronica FutureLab.

•Significant awards that recognise excellence in the field, and future possibilities such as: Ars Electronica Prix Next Idea & EU Commission's S+T+ARTS prize.

#3 Education & training

•Include art/science training in research education and training on current artistic practices.

•Ensure means for science education and communication to accompany art/science initiatives and vice versa.

•Build art/science concepts into teacher training.

•Evaluate art/science concepts as a means to inform ethical insights about the implications of new and emerging technologies.

#4 Funding

•Increase and diversify the opportunities for small seed funding for the involvement of artists in research projects. Even comparatively small amounts can trigger interesting art/science cooperation.

•Aim to overcome the current strict separation between mechanisms for arts funding and for technologies funding. Consider the full spectrum of artistic contribution to and involvement in scientific processes and their impact on the public including citizen scientists and importantly, understanding and agency in the discourse.

#5 Further research & critical discussion

•Support research to improve our understanding of international art/science interaction and its relation to citizens, but also its impact on

innovation.

- Policy makers should take advantage of the specific role that artistic interaction with technology and science plays in reaching out to broad public audiences. Art is inherently communicative. It serves to establish critical discourse. Investments in art/science usually imply investments in public communication of science to some extent.

- Recognise and support the integration of art/science as or within research infrastructures, e.g. in supercomputing or data facilities. A few large research infrastructure organisations run programmes for artist residencies (e.g. CERN). This should be expanded to smaller organisations including universities, public research institutes etc.

- Improve our understanding of creative processes in both artistic and citizen interaction with science and digital technologies research.

- Promote opportunities for exchange between researchers, artists, engineers and a broad public in order to detect and address adverse effects as well as opportunities.

CONCLUSION

The concepts of digital art/science and art/technology both have long traditions but are also undergoing significant changes. Australia and Europe are active contributors to the digital art/science scene worldwide.

Some synergies between Australia and the European Union are evident: strong cultural ties, joint initiatives, common languages and policy interests, but also similar challenges and changes. Some aspects are more diverse and offer an opportunity for mutual fertilisation, e.g. artistic traditions, indigenous diversity, degree of multiculturalism.

Many of the potential benefits of stronger joint EU/Australian art/science practices have scarcely been investigated and are still in their infancy. They are most clearly visible in the establishment of public discourse, for example in galleries and public art/science festivals. There is a huge potential building on existing strengths to significantly change digital art/science collaboration between the EU and Australia. AU-EU initiatives for art and digital technology research could turn even small investments into highly visible and durable partnerships.

Further References & Links

Erich Prem, Innovation Opportunities Emerging from Leading-Edge Art/Science/Technology Interaction. In: Int. J. Technology Transfer and Commercialisation, XXVIII ISPIM Innovation Conference, Vienna, Austria, 18-21 June 2017.

ICT ART CONNECT, Report, European Commission, 2015. https://ec.europa.eu/digital-single-market/en/news/ict-art-connect-activities-linking-ict-and-art-past-experience-future-activities 4. Coeckelbergh, M. 2018.

'The art, poetics, and grammar of technological innovation as practice, process, and performance', in: AI & Society 33(4), 501-510.

ICT and Art Connect: Engaging Dialogues in Art and Information Technologies. Workshop report, European Commission, G. Foden, R. Dum (Eds.), 2012.

Wouters, N., Hunt, T., Dziemidowicz, O., Hiscock, R. and Vetere, F. Media Architecture in Knowledge and Innovation Districts: Designing a Canvas for Research, Culture and Collaboration. In Proceedings of the

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