Mapping of Arts Integration within Enterprise

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arts formation

Report of the EU H2020 Research Project Artsformation: Mobilising the Arts for an Inclusive Digital Transformation

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About Artsformation: Artsformation is a Horizon 2020 Research and Innovation project that explores the intersection between arts, society and technology Artsformation aims to understand, analyse, and promote the ways in which the arts can reinforce the social, cultural, economic, and political benefits of the digital transformation. Artsformation strives to support and be part of the process of making our communities resilient and adaptive in the 4th Industrial Revolution through research, innovation and applied artistic practice. To this end, the project organizes arts exhibitions, host artist assemblies, creates new artistic methods to impact the digital transformation positively and reviews the scholarly and practical state of the arts. The following report is one part of this ongoing effort.

For more information, please visit our website: www.artsformation.eu

Table of contents

Executive Summary

This report provides a cross-sectional mapping of Arts integration within enterprises and organisations that relate to the digital transformation, in contemporary and emerging contexts, across Europe and beyond. Building on the foundational work of task 3.1, this mapping indexes engagements between the Arts and enterprise across the three categories – Residing, Consulting and Embedding. In addition to these three formations, this report extends on the previous work, to formulate another level of scalar categorisation. This is in order to further capture the diversity of attributes between how enterprises and artists engage with each other. To this end, each instant of Arts-Enterprise engagement can be understood at some point across the spectrum of the following six scales: From Equal to Unequal Relationships Between Artists and Enterprise; From Highly Collaborative, Interdependent Artist/Enterprise Practice to the Independent Practice of Artist; From Long-term, Sustained Engagement to Short-term Interactions; From Practice as Highly Defined by Enterprise to that as Self-Defined by Artist; From being for the Benefit of a Specific Target Audience to Reaching Wider Publics and; From Arts Having a Strong Influence on Enterprise to Having a Weak or Minimal Impact on Enterprise.

Through the mapping process in this report, we observe how artist practices are gaining more interest from enterprises and technical institutions, particularly over the past five years. This indicates that there is a growing number of enterprises and organisations who want to leverage artist practices in the development of digital technologies and applications. Furthermore, we can see that there is a wide variety of strategic goals from the perspective of enterprise for initiating these engagements, ranging from widening the perspectives of engineers to implicitly addressing social, economic or political issues, to using artists to leverage improved public relations. The recent influx of artist in residence programmes may be driven, in part, by the increasing urgency of issues such as algorithmic bias, data privacy, disinformation as well as larger movements towards addressing the wider ethical, socio-political and environmental implications of the digital transformation. At the same time, there seems to be a growing recognition among enterprise and technology development leaders, that artists and creative strategies are beneficial in terms of critiquing underlying presumptions about the relative value of outputs and diversifying future project developments. We also see a marked increase in the number of residencies as focused on specific types of technological developments such as machine learning and artificial intelligence. Finally, while Artist engagements are increasing on a whole, there were some notable exceptions in the major technology companies including Amazon and Apple.

Introduction

Much of the digital transformation is driven by commercial and organisational interests, with particular reference to the influence of major Internet companies, software providers, and research institutions. Despite an increasing number of artists working within enterprise and technical organisational settings, this area of practice is not well-documented and to the best of our knowledge, there has thus far been no significant research that examines artists engagements with enterprise in relation to the digital transformation. Subsequently, the focus of this work package (WP3) is to explore the relationships between Arts and Enterprise,[1] and to understand how the Arts can have a valuable impact at the foundational level of the digital transformation, through its diffusion with enterprises. Ultimately, we are interested in uncovering the types of relationships and types of value that emerge through these Arts and enterprise engagements. Does the engagement result in meaningful interactions, for example, causing the infiltration of art-based philosophies into the core business model of the enterprises or the reorientation of process or product development as influenced by artists? Or does the engagement between artists and enterprise operate on a superficial level, for example, serving as a means to improve the public image of the enterprise or as an aesthetic spectacle?

In order to address these broader questions, first we must understand the fundamental parameters of Arts-enterprise engagements. For example, where is arts integration more and less common, geographically and across what types of institutions and enterprises? How long have these Arts-enterprise engagements sustained themselves for or what type of iterations or changes have they experienced? Are there any identifiable patterns, in terms of emerging trends, in relation to Arts-enterprise engagements? What is the role of the enterprise in facilitating the artist within the enterprise and what is the outcome of the engagement? What aspects of the arts are being integrated within enterprise and what is being exchanged? As much as possible, the indexical survey here will answer these questions.

The previous WP3 deliverable, *T3.1: The Role of Art in Enterprise*, outlined how artists and enterprises across different sectors of industry and commerce (technology, business management, hospitality, etc.) have engaged with each other, historically and into the present day. Building on this foundational work, this report, *T3.2 Mapping of Arts Integration within Enterprise* provides the basis of an indexical survey of individual instants of contemporary and emerging Arts-enterprise integration, specifically in relation to the digital transformation. This mapping is intended to connect a range of varying information in order to demonstrate the different parameters and facets of Arts integration with enterprise. This includes addressing questions such as:

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[1] A note on definitions. For the purpose of this report, we take the word 'Enterprise' by its broadest definition to include public and private organisations and commercial businesses. We also define 'Arts' and 'artists' by its widest sense to include a broad range of artistic and creative practices including the fine arts, photography and film making, architecture and design.

- what types of digital transformation related enterprises are open to arts integration?

- what aspects of the arts are being integrated within enterprise?

- where is arts integration more and less common across Europe?

- what is the depth of engagement between the artist and enterprise?

- what is the potential impact of the engagement?

In answering these questions, it seeks to understand Arts integration with enterprise as a distinct movement with its own varying intentions, methodologies, values, practical needs and impact. Through the mapping, we identify a number of variant characteristics of Arts-enterprise engagement. The intention is to provide a framework that reveals both commonalities as well as distinctions in practice, within which artists and enterprises can situate themselves in relation to others working in this area. Ultimately, with a clearer understanding of scope and variations of Arts-enterprise engagement, the aim is to identify what can contribute to meaningful Arts-enterprise engagements in shaping the digital transformation and to support more effective practice for both artists and enterprise in theses domains.

Mapping the Parameters of Engagement

All mapping exercises, by their own virtue, signal a number of decisions about what warrants inclusion or not. This mapping is designed to objectively capture the breadth of Arts-enterprise engagements that relate to the digital transformation or some specific element thereof. In the mapping of specific cases of Arts-enterprise engagement, we attempt to capture a number of variants. This includes details on the following dimensions:

- the name and location of the engagement

- the active time of the engagement or how long the engagement has been running

- the type of enterprise

- the role of the enterprise in the engagement

- the funding / reimbursement / exchange involved

- the genre of art practice / artistic initiative (e.g., socially engaged, institutional critique, etc.)

- the medium or output of art practice (e.g., media-based, performance based, etc.)

Where the information is available, we also try to identify the assumed aims and goals of the engagement and the eventual impact through the engagements, both for the artists and enterprises involved. While all the cases mapped in this report relate to some aspect of the digital transformation, we are also interested in how the different issues (algorithmic regulation, misinformation, new ways of working, etc.) and applications (e.g. AI, IoT, automation, etc.) of the digital transformation are addressed in the engagements between artists and enterprise. In this report, the main focus of the mapping is within European contexts. But given the significant developments in the digital transformation globally (most notably in the US), we also include leading examples from around the world.

The above information was collected primarily through desktop-based research. Beyond PR material provided by the enterprises themselves, there is often little written about many of these programmes. Therefore, the survey consists primarily of press and publicity literature relating to specific actions and programmes, as well as literature produced by participants, both art and enterprise, engaged in such programmes. Owing to the emergent nature of the engagements, to a lesser degree, the mapping also includes relevant references from academic publications and reports on the subject of Arts-enterprise engagements.

It is important for us to acknowledge that this is mapping is by no means exhaustive. To this end, we see this report as an interim step in a multi-phase work plan to identifying and mapping what exists in terms of Arts-enterprise engagement. With this foundational indexing in place, we will continue the further complete this mapping, over the course of the project. The intention is to collect further examples through snowball sampling as part of the upcoming Task 3.3 Case Studies, as well as capturing additional examples through Task 3.5 Organisational survey. This will involve setting up a process to collate information from enterprises via an on-line survey on their engagement with artists. For a preview of this survey, please see Appendix 1. In summary, while the examples in this report provide a good indication of the breadth and parameters of Arts-enterprise engagements, we acknowledge that this mapping is not comprehensive. We see this task as an open, ongoing and collaborative process of identification that will continue to index cases of Arts and Enterprise engagements.

Intended Outcomes

The intention of this report is to begin to objectively capture and map the varying dimensions of Arts-enterprise engagements. We understand it as a foundation for further action and investigation. As part of this mapping exercise, we will also identify the most pertinent cases of Arts-enterprise engagement. These cases will become the subject of the subsequent research for T3.3 - Case studies into the processes of Arts integration in enterprise, including interviews with organisations and Arts professionals.

We also want to consider how the mapping could be used as a tool for different potential stakeholders and audiences, to make more legible the parameters of arts-enterprise engagements. For example, for an enterprise that wanted to integrate the work of artists into their process, how could they use this tool to understand the different types of arrangements, trade-offs, level of engagement, etc? Or for an artist, how could the mapping be used to identify suitable enterprise partners and to facilitate strong working relationships?

Residing, Consulting, Embedding

The previous report T3.1, identified three primary formations that reflected different levels of embeddedness, identification and diffusion of art, artists and artist methodologies into the workings of different enterprises, ranging from those where the artist work remains separate to the business practices, to those where the artistic and business practice are indistinguishable. For the purpose of this report, we retain these same three categories. The three formations are as follows:

	Residing	**Consulting**	**Embedding**
DEFINITION	Cases in which artists are explicitly identified as such and their work with enterprise is in the role of artist.	Cases in which artists and artist methodologies are employed by enterprise for specific, usually short term, engagements and which often have identified aims and goals.	Cases where art practices are central to the enterprise functioning or operations, even though they might not always be explicitly identified as such within the enterprise.
EXAMPLES	Artist in Residence programmes at Facebook, Autodesk and Microsoft	Management consulting	Enterprises directed by artists or artist owned businesses

It is important to note that the boundaries between these three categories are not always rigid and there exist cases that fit comfortable in more than one category (as was also the situation in T3.1). Generally, however, these three sections can be seen as representing a movement along an axis from the explicit recognition of the work of the artist as producing art works that are separate to the activities of the enterprise, to the more implicit position of producing goods or services outside of traditional art production. As the position of the work of the artist moves along this axis, so too the explicit identification of the artist as "artist" alters such that in some cases it becomes difficult or even impossible to make explicit such an identification. While on the one hand, this blurring the lines of the artists role in artist-enterprise engagement makes the indexing of cases more difficult to pinpoint, on the other hand, this blurring is perhaps central to understanding the future potential of artist-enterprise engagement in the context of the digital transformation.

Revealing New Variations in Arts-Enterprise Engagement

Across these three categories of Arts-enterprise engagement (Residing, Consulting, Embedding), there is still a huge amount of diversity between how enterprises and artists engage with each other. Depending on factors such as the context, intentions, timeframes, and process, the mapping revealed there to be a wide variety between different Arts-Enterprise engagements. To this end, we have formulated another level of variation in order to capture the different attributes, which we believe are significant in understanding these engagements. Going forward, these characteristics can be used to identify more specifically the dynamics of Arts-enterprise engagements with specific connections to the digital transformation.

Each instant of Arts-Enterprise engagement can be understood at some point across the spectrum of the following six variant scales:

1. **Symmetric / Asymmetric Relationships - From Equal to Unequal Relationships Between Artists and Enterprise**
   In reality, no Arts-enterprise engagement will be completely symmetric in nature. Instead there will be a greater or lesser degree of variety between both parties, in terms of financial return, benefits, the ability to influence the outcome of engagement, and rights and conditions. In general, the terms of Artist-Enterprise engagements, tend to favour the enterprise party involved.

   - **Symmetric Relationship, S+T+ARTS Residencies**
   - **Asymmetric Relationship, Factory Berlin x Sónar + D's Artist in Residence**

2. **Interdependent / Independent Practice - From Highly Collaborative, Interdependent Artist/Enterprise Practice to the Independent Practice of Artist**
   Unlike art that is produced in studio or gallery contexts, art-making within the context of enterprises may result in practice or works that are integrated within the core enterprise or some aspect of the enterprise. In these situations, the artist works in a collaborative manner with the enterprise and / or its employees. On the other end of this spectrum, some art practice in the context of Arts-Enterprise engagements may have a low degree of integration, may operate externally to the enterprise or disregard the enterprise perspective within which it is situated, resulting in for example, "art pour l'art".

   - **Interdependent Artist/Enterprise Practice, E.A.T. Nokia Bell Labs Artist in Residency, Independent Art Practice, Art + Technology Lab at LACMA**

3. **Timeframe of Engagement - From Long-term, Sustained Engagement to Short-term Interactions**

   Depending on the type and conditions, Arts-enterprise engagements range from those with a sustained commitment over a number of years to more short-term interactions that may only last a few hours or days. For example, many artist-in-residence programmes have set time limited durations whereas, in general, consultancy interactions are on an ad-hoc basis.

   - **Long-Term Engagement, ArtScience Residency Program Ars Electronica & Deutsche Telekom**
   - **Short-term Interaction, ArtBizTech Consultancy**

4. **Prescribed / Unprescribed Practice and Outcomes – From Highly Defined by Enterprise to Self-Defined by Artist.**

   The specificity of the type of process, practice and outputs of Arts-enterprise engagements may vary widely, from being highly prescriptive as pre-defined by the enterprise, to being unprescribed and so as to be self-defined by the artist. In prescriptive engagements this may include negotiating constraints as set by the enterprise such as the types of process or presentation, ownership and intellectual property, the use of materials and documentation and importantly, the potential for critique as part of the artists' work. In less prescriptive engagements, the artist may place more emphasis on the process itself as opposed to the value placed on product as project outcome. Less prescriptive engagements may also allow some possibility for critique as part of the artists' work.

   - **Prescribed Practice and Outcomes, Adobe AIR programme**
   - **Unprescribed Practice and Outcomes, WimmelResearch Fellowship, Robert Bosch GmbH**

5. **Intended Audiences – For the Benefit of a Specific Target Audience to Reaching Wider Publics**

Different Arts-Enterprise engagements are intended to benefit different audiences in different ways. For example, some engagements may be specifically designed to influence culture within the enterprise and so will be organised with the benefit of employees of enterprise in mind. While some other Arts-Enterprise formations have the intention to reach a much wider audience e.g. the wider public.

- **Specific Audience, Accenture, the Dock and Science Gallery Dublin AIR**
- **Wider Publics, Tactical Tech**

6. **Level of Impact – From Arts Having a Strong Influence on Enterprise to Having a Weak or Minimal Impact on Enterprise**

This variant is closely related to all of the above-mentioned variants. It concerns whether the influence of the artist has a strong impact on the enterprise, for example, shaping strategic decision-making, inspiring product-design, changing attitudes and beliefs, etc., or whether the artistic practice has minimal or no impact on the enterprise, for example, acting as an artistic decoration, becoming used in marketing material, or artistic work solely for the purpose
of Corporate Social Responsibility.

- **Strong Impact on Enterprise, Microsoft Research AIR programme**
- **Weak Impact on Enterprise, Facebook AIR programme**

There are thousands of instants of Arts-enterprise engagements. The next section of this report provides examples of these engagements across the categories - Residing, Consulting, Embedding. All of the cases detailed here concern how the Arts are engaging with the digital transformation in the context of enterprise and organisations.

RESIDING

Cases in which artists are explicitly identified as such and their work with enterprise is in the role of artist.

The cases indexed under the category 'Residing', broadly relate to the movement amongst technology companies, technology research centres and other related institutions, in the creation of Artist-in-Residence (AIR) programmes. These programmes, although differing from case to case, generally exist as short-term artistic production residencies in which the residency host provides studio space within its offices to artists to produce new works often in addition to some form of financial support. In the 'Residing' cases, the identification of the artist is generally very explicitly identifiable (in comparison to the 'Consulting' and 'Embedding' cases).

Art Intelligence, Australian Institute for Machine Learning (AIML) Artist in Residency

(Adelaide, AUS)

Time Active: 2020 - Present

Type of Enterprise: Academic

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Undefined

URL: http://artintelligence.ai/

Figure 1: The inaugural artist-in-residence at Art Intelligence, Laurie Anderson.

In 2020, AIML and the Sia Furler Institute, a centre for contemporary music and media, both at the University of Adelaide, launched an AIR programme under the banner 'Art Intelligence'. Situated at the intersection of art and artificial intelligence, the project proposes to act as "a world-first artistic research platform and independent art space for capturing emerging thoughts and creative forms that pairs world-class AI and machine learning engineers with leading artists, supporting their collaboration in mediums from VR to robotics, from music to architecture with a goal to produce ground-breaking explorations at the intersection of art and artificial intelligence (AI)."[2] AIML collaborate with global industry to develop machine learning applications. On her upcoming participation in the programme, the artist Laurie Anderson said: "When people say the purpose of art is to make the world a better place I always think: better for who? Art is not medicine or science. It's not about creative problem solving. If I had to use one word to describe art it would be freedom. I'm curious about whether this freedom can be translated or facilitated by AI in a meaningful way."[3] Throughout the AIR, experiments will be shared with the public via MURMUR—an online and offline exhibition space nested within Art Intelligence to capture emergent thinking and creative forms born of the artist-engineer collaboration process.

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[2] https://www.adelaide.edu.au/newsroom/news/list/2020/03/04/laurie-anderson-to-be-inaugural-art-intelligence-artist-in-residence

[3] https://www.wired.com/beyond-the-beyond/2020/03/laurie-anderson-machine-learning-artist-residence/

Facebook Artist in Residency

(International)

Time Active: 2012 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Art Practice / Output:

URL: https://www.facebook.com/pg/artistinresidence/about/

Figure 2: *Example of Mural artwork, created as part of Facebook AIR Sophie Roach, at Facebook Offices in Austin, Texas. Source: https://sophieroach.com/facebook-atx-artist-in-residence*

The Facebook AIR is a short term engagement between artists and the company's different global offices. Commissioned artists are selected by Facebook AIR's inhouse curation team, with the primary focus of the AIR being the production of works owned by Facebook and for the Facebook offices. Subsequently, the AIR tends to result in the production of wall-based works such as murals, posters and prints along with wall mounted and hanging sculpture. According to the Facebook AIR programme's founder and curator, Drew Bennett, the mission of their AIR programme is to create a "corporate environment rich in art" and the outcomes are directed toward "positively impacting the work experience of employees."[4] The artists are permitted to converse with staff but do not co-create or engage in collaboration.

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[4] https://www.artbusiness.com/facebook-artist-in-residence-program.html

Adobe Creative Residency

(San Francisco, US)

Time Active: 2015 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Illustration, media based

URL: https://www.adobe.com/about-adobe/creative-residency.html

Figure 3: Adobe Creative Residency Booth by Nadine Kolodziey at, Adobe MAX Los Angeles, 2018. Source: https://www.behance.net/gallery/73199875/Creative-Residency-Booth-Adobe-MAX-2018

The Adobe creative residency programme is specifically tailored towards the use of the company's creative software and tools, as commonly used by artists and "creatives" in wide-ranging practices. The residency arrangement is described by Adobe as: "Adobe Creative Residents receive access to the best creative tools and resources, along with guidance from advisors and a compensation package. In return, residents proactively pursue their own personal creative projects while sharing their processes, insights, and inspirations with the community along the way."[5] In the Adobe AIR programme artists are given access to the company software and as such are not inserted into the productive processes of the company. Because Adobe develop software used by artists and creative workers, how the residents report on their creative processes can also be seen to help engineers design products.

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[5] https://www.adobe.com/about-adobe/creative-residency.html

Microsoft Research Artist in Residency

(Cambridge, MA, US)

Time Active: 2012 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Various

URL: https://www.microsoft.com/artist-in-residence/

Figure 4: Architect Jenny Sabin as artist in residence at Microsoft Research. Source: Microsoft.com

Launched in 2012, the Microsoft Research Artist in Residence program is a collaboration between researchers and artists working with new and emerging technologies that are not yet available to the public. Designed to influence culture within the company, the program merges the strengths of art with cutting-edge scientific research to expand audiences' understanding of humanity as the rightful centre of technology. The Microsoft Research Artist in Residence program brings together artists, scientists, and engineers to reflect and create across the vast unexplored possibilities at the intersection of humanity, culture, and technology. This program merges disciplines to powerfully showcase cutting-edge research, convey higher concepts, and expand public perception of computer science. According to the Microsoft AIR website: "Artists are conduits between ideas and culture, and this residency intentionally challenges the differing perceptions between what computer scientists do versus what is commonly understood. As researchers pursue intellectual curiosities and theories, the artist in residence collaboratively distils those concepts into a public space that invites dialogue and further prototyping of ideas."[6]

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[6] https://www.microsoft.com/artist-in-residence/about/

Google Artists and Machine Learning

(New York, US)

Time Active: 2016 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Various

URL: https://ami.withgoogle.com/

Figure 5: Screenshot from Artists + Machine Intelligence Homepage, Source: https://ami.withgoogle.com/

Artists + Machine Intelligence (AMI) is a programme at Google that brings artists and engineers together to realize projects using Machine Intelligence. It claims that "by supporting this emerging form of artistic collaboration we [Google] open our research to new ways of thinking about and working with intelligent systems."[7] The programme is motivated by a number of questions including: "What do art and technology have to do with each other? What is machine intelligence, and what does "machine intelligence art" look, sound and feel like? What are the emerging relationships between humans and machines; what does it mean to be human; and what can we learn about intelligence, human or otherwise, through art?"[8] In 2020, the selected proposals explore creative machine learning techniques in film, sound sculpture and poetry, archaeology, and interactive storytelling.

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[7] https://ami.withgoogle.com/

[8] https://medium.com/artists-and-machine-intelligence/announcing-the-artists-machine-intelligence-grant-recipients-c3cba9addca8

E.A.T. Nokia Bell Labs Artist in Residency
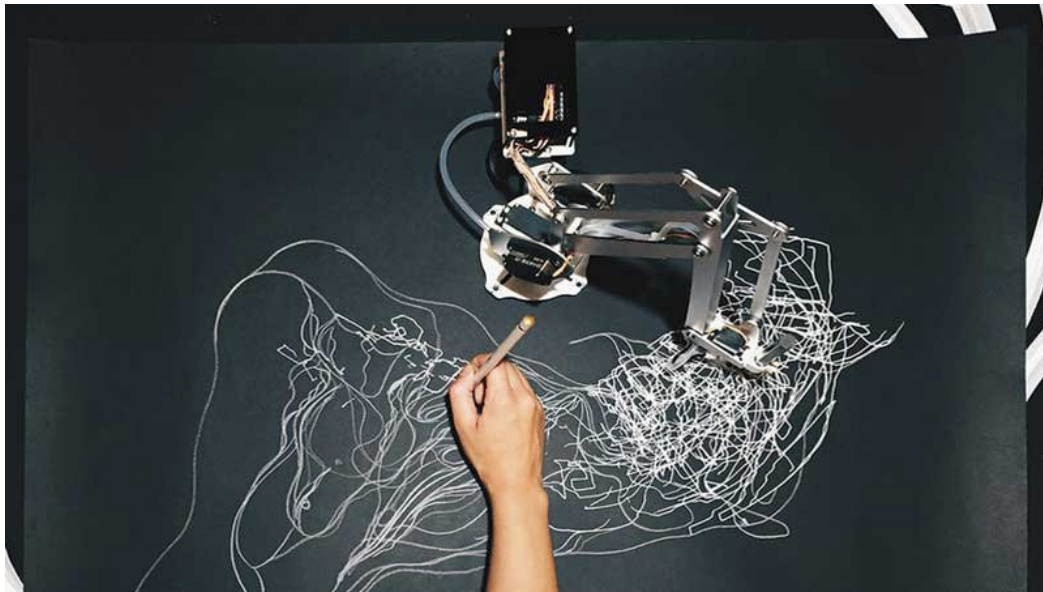
(US / EU)

Time Active: 2015 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Commissioned artworks

URL: https://www.bell-labs.com/collaboration-opportunities/eat/

Figure 6: Artwork created by artist Sougwen Chung as part of the E.A.T. residency. Source: https://www.bell-labs.com/collaboration-opportunities/eat/#gref

The partnership between Nokia Bell Labs' Experiments in Art Technology (E.A.T.) and NEW INC (see also in EMBEDDING) supports a residency and commissioning programme, generating collaborative projects that engage newly emerging technologies such as robotics, machine learning, and biometrics. The AIR programme claims to involve deeply embedding the artists within the research community. Specifically, the E.A.T. Residency engages artists from the NEW INC community to work in residence at the Bell Labs campus in New Jersey and provides studio space, access to scientists and technology. According to the residency description, artists work with Bell Labs engineers over the course of a year, and at the conclusion present a prototype for an artwork that merges their artistic practice with an area of scientific research being explored at Bell Labs. The website describes the aim of the AIR programme as "to create new modes of empathic communication that will encourage and enable people to share emotions, sentiments, cognition and experiences."[9]

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[9] https://www.bell-labs.com/collaboration-opportunities/eat/#gref

Art + Technology Lab at LACMA Artist in Residency

(Los Angeles, US)

Time Active: 2013 - Present

Type of Enterprise: Cultural Institution and Private Technology

Role of Enterprise: Sponsor

Funding: up to $50,000 and as well as in-kind support

Type of Practice / Output: Commissioned artworks

URL: https://www.lacma.org/lab/

Figure 7: Agnieszka Kurant, A.A.I. (Artificial Artificial Intelligence), 2017, courtesy the artist and Tanya Bonakdar Gallery, New York/Los Angeles, photo Aurélien Mole. Source: https://www.lacma.org/lab/project/artificial-society-collective-tamagotchi

The Art + Technology Lab is designed to allow recipients to pursue new directions in their work that explore ideas in technology and culture. The project website states that the Lab; "supports experiments in design, creative entrepreneurship, adventures in art and industry, collaboration, and interdisciplinary dialogue."[10] In addition to the grant, recipients also receive in-kind support, such as mentorship, coaching, advice, and exposure to technologies in development at industry partner organisations, including Hyundai, Accenture, Snap, Inc., DreamWorks Animation, SpaceX, and Google as well as independent artists and academics working in art and technology.

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[10] https://unframed.lacma.org/2020/12/10/2021-art-technology-lab-call-artist-proposals

Schaufler Residency TU Dresden

(Dresden, DE)

Time Active: 2020 - Present

Type of Enterprise: Academic / Research

Role of Enterprise: Sponsor

Funding: Funded (3K p/m)

Type of Practice / Output:Varied

URL: https://tu-dresden.de/gsw/schauflerlab/schaufler-residency

Figure 8: Christian Kosmas Mayer, the first Artist in Residence in the Schaufler Lab@TU Dresden programme

Established in 2019, the Schaufler Lab at TU Dresden, seeks to explore the complex relationships among humans, machines, technology and the world from the perspective of the arts, humanities and social sciences. A major initiative of the lab is the Schaufler Residency, which invites resident artists to work in close exchange with scientists from the university's STEM disciplines (mathematics, natural sciences and engineering). In the first funding phase (2020–2022) the central topic is 'Artificial intelligence (AI) as factor and consequence of societal and cultural change'. The Lab´s residency programme is open for artists concerned with "the interface between art and science, explicitly artistic intelligence and its implications for society and the culture of objects."[11] It addresses artists from the fields of media art, conceptual art, performance, etc. During the residency, the artist becomes part of TU Dresden's scientific community of researchers and students and may draw on resources for artistic and creative productions, both of TUD and the various cooperation partners.

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[11] https://tu-dresden.de/gsw/schauflerlab/schaufler-residency/bewerbung

WimmelResearch Fellowship, Robert Bosch GmbH

(Renningen, DE)

Time Active: 2015 - Present

Type of Enterprise: Private Engineering

Role of Enterprise: Sponsor & Host

Funding: Funded

Type of Practice / Output: Varied

URL: www.akademie-solitude.de/en/news/call-for-submissions-wimmelresearch-fellowship/

Figure 9: Interior of Platform 12 at the Bosch Campus, Renningen. Source: https://www.bosch.com/stories/artist-in-residence/

The WimmelResearch Fellowship is a residency programme addressed at artists (including architects, designers, authors, sound artists, performers, filmmakers, coders) as hosted by the engineering company Bosch. As part of the fellowship, resident artists are required to have a continuous daily presence at Platform 12, a dedicated experimental space designed for artist/researcher collaborations, at the Bosch research and engineering campus. The aim of this space is to break up conventional structures and promote creativity. The call for participation states that: "Platform 12 contains a permanent collaboration with Akademie Schloss Solitude, in the framework of which artists of various disciplines engage with the company as indirect observers and initiators, to exchange ideas with researchers and work on their own and joint artistic projects. The fellowship is meant to encourage artists and researchers to explore new ideas and to shape future-oriented concepts together. The main focus is not necessarily the production of a specific artistic work, but the encounter and process of dialog in itself."[12]

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[12] https://www.akademie-solitude.de/en/news/call-for-submissions-wimmelresearch-fellowship/

Factory Berlin x Sónar + D's Artist in Residence

(Berlin, DE)

Time Active: 2019 - Present

Type of Enterprise: Tech Start-Up Space

Role of Enterprise: Host

Funding: Not funded

Type of Practice / Output: Varied

URL: https://factoryberlin.com/artist-residency/

Figure 10: Installation view of 'I'd rather be in a dark silence than' by Artists in Residence Ania Catherine and Dejha Ti at Factory Berlin, 2020. Image Source: https://www.clotmag.com/news/exhibition-id-rather-be-in-a-dark-silence-than-by-ania-catherine-dejha-ti-at-factory-berlin

The Residence programme is hosted by Factory Berlin, Sonar +D and Beats by Dr. Dre. According to the project website: "the Residency supports artists exploring new lines of inquiry intersecting technology & society. We aim to discover, explore and showcase how creativity impacts innovation, problem-solving, work culture, how we collaborate, and how we come together as a community". The stated aim of the AIR programme is "to facilitate dialog, partnership, and collaboration at the intersection of technology and exploratory arts. By focusing on this synthesis, the program empowers artists to create work which inspires shifts in perspective and cross-collaboration." The AIR programme claims to add artists to "develop skills, competencies, and know-how, including how to adapt to digital technologies and the future of work". As an organisation, Factory Berlin which was originally established as a large international network of tech startups, "forge partnerships with global organizations, for example, Google for Startups, and McKinsey & Company, in order to give startups access to resources that help their businesses grow".[13] The Factory Berlin AIR is not funded but claims to include perks such as free membership, mentorship and network growth opportunities.

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[13] https://factoryberlin.com/about/

S+T+ARTS

(EU)

Time Active: 2016 - Present

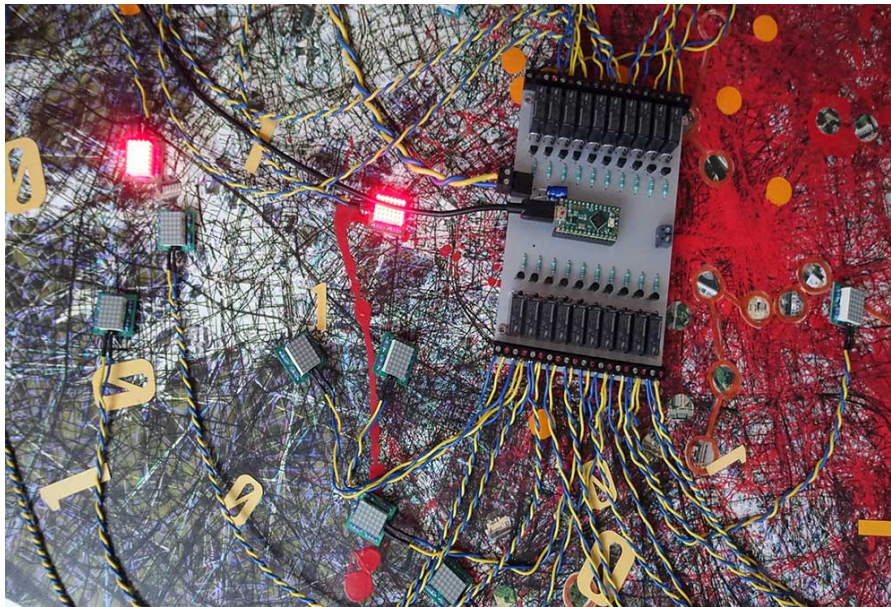Type of Enterprise: Private Technology

Role of Enterprise: Host

Funding: Funded - up to 30 000€

Type of Practice / Output: Varied

URL: https://vertigo.starts.eu

The focus of the S+T+ARTS residencies (lasting between 3 and 9 months) is on the integration of Arts practice with research and innovation. The residencies encourage 'Tech Projects' (defined as collaborative projects between institutions or an internal project in a research centre or company), to host artists to boost the innovation potential of technologies. By thinking "out of the box", artists can expand technological boundaries, develop unexpected use cases, produce new prototypes, provide additional knowledge and stimulate novel processes.[14] Artists are likely to develop visions for technology that are different from researchers or engineers. Through co-creation, they can inspire new ways of thinking for tech projects developing new technologies. As part of the call, the Tech Projects are expected: to be developing an innovative technology at a state-of-the-art level in an emerging field (e.g. smart cities, wearables, open data, internet of things, cloud computing, eHealth, virtual reality, etc.); to give the artist access to technologies developed by the project and: to fully committed to integrate the artist into the project and the team through a co-creation process.

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[14] https://vertigo.starts.eu/calls/starts-residencies-call-3/detail/

ArtScience Residency Program Ars Electronica | Deutsche Telekom

(Eastern Europe and Linz, AT)

Time Active: 2021 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output:

URL: https://ars.electronica.art/export/en/residency-program-telekom/

Figure 12: Orbits, Quadrature, Foto: Ars Electronica / Martin Hieslmair, Source: https://ars.electronica.art/export/en/residency-program-telekom/

This new three-year Artists-in-Residence Program is a cooperation between Ars Electronica Export and Art Collection Deutsche Telekom. The residency is split between selected scientific partners in Eastern Europe and other countries, and the Ars Electronica in Linz, Austria. It is intended for artists who work at the interface between art, technology and science and who are particularly interested in researching the social impact of technological developments. As the call for participation states, this AIR programme aims to foster interaction between international artists, researchers and scientists and Eastern European partners from research or industry. This program is intended to create a space for encounters in which artistic practice and scientific research can be combined in the best possible way. [15] The aim of the artwork should be to critically question technological developments including technological tools but not limited to it. The residency will keep a blog that transparently documents the various steps involved in the creation of an artistic/scientific work and discusses the challenges and questions posed by the process. In this way the public will be included in the discussion and the process of the work. The finished work will be presented at the Ars Electronica Festival in Linz.

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[15] https://ars.electronica.art/export/files/2020/10/telekom_artScience_call_infosheet.pdf

Dublin City University (DCU) Artist in Residence in Technology and Innovation

(Dublin, IE)

Time Active: 2020 - Present

Type of Enterprise: Academic / Technology Campus

Role of Enterprise: Co- Sponsor (alongside the Arts Council Ireland)

Funding: Funded (€20K per annum)

Type of Practice / Output: Undefined

URL: https://www.dcu.ie/president/Visual-Arts-Office.shtml

Figure 13: DCU Artist in Residence in Technology and Innovation, Fiona McDonald. Source: https://www.dcu.ie/commsteam/news/2020/oct/dcu-partnership-arts-council-announce-fiona-mcdonald-artist-residence

This AIR programme is a new partnership between DCU and the Arts Council Ireland. It is hosted by DCU Alpha (a commercial innovation campus) within Talent Garden (a digital innovation and co-working hub). The residency will provide an artist with the environment and resources to explore innovative technologies through their practice. According to the original programme call, it is "an opportunity for an artist to work within an innovative co-working environment and to engage with a community of researchers, engineers, innovators and entrepreneurs. The residency is designed for visual artists whose work would be enhanced by an immersive engagement in this context."[16] In 2020, Artist Fiona McDonald was selected as the inaugural AIR. During the residency, she intends to explore ML and AI applications and "to engage in the dialogue around AI ethics, deductive and reductive algorithms and how these systems affect how choices are being made in the world."[17]

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[16] http://www.artscouncil.ie/Funds/Artist-in-Residence-in-Technology-and-Innovation/

[17] https://www.dcu.ie/commsteam/news/2020/oct/dcu-partnership-arts-council-announce-fiona-mcdonald-artist-residence

Connect CERN Artist in Residency

(Geneva, CH / International)

Time Active: 2021 - Present

Type of Enterprise: Scientific Laboratory

Role of Enterprise: Collaborator

Funding: Funded

Type of Practice / Output: Varied

URL: https://prohelvetia.ch/en/2021/04/connect-art-and-science/

Figure 14: Artist Antje Greie Ripatti at CERN, 2016. Source: prohelvetia.sharepoint.com/sites/TeamKommunikation/

Arts at CERN and the Swiss Arts Council Pro Helvetia have been organising residencies for artists and cultural practitioners since 2014, but in 2021, they have jointly launched a new residency programme with an international framework called 'Connect'.[18] The residencies are designed to foster experimentation in art and science in collaboration with prestigious scientific institutions worldwide and to be centred on the intersection of science and artistic research with a focus on cultural exchange. They will be hosted in cooperation with science organisations and experimental facilities in Switzerland and worldwide.[19] The new residencies offers two formats, one national and one international, both open to arts practitioners from all disciplines. The national format offers a Swiss artist or collective a three-month residency at CERN in Geneva, during which they will benefit from a curated residency, dedicated time and space within the CERN's laboratory community and will also be matched with a scientist. The international residency enables a tandem consisting of one artist from Switzerland and one from abroad to be in residency together at CERN Geneva then at an equivalent international scientific institution.

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[18] https://prohelvetia.ch/app/uploads/2021/04/connect-ch-callforapplications2021.pdf

[19] https://home.cern/news/news/cern/arts-cern-and-pro-helvetia-extend-their-partnership-launch-connect

Accenture, the Dock and Science Gallery Dublin AIR

(Dublin, IE)

Time Active: 2020 - Present

Type of Enterprise: Private Company / Cultural

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Exhibition

URL: https://a-i-r.online/

Figure 15: Jess Majekodunmi, from Accenture's The Dock, with the exhibit by A.I.R Multiplay. Image Source: https://www.irishtimes.com/news/ireland/irish-news/images-of-the-day-1.4507950#&gid=1&pid=2

In 2020, Accenture's flagship R&D and Global Innovation Centre 'The Dock' in partnership with the Science Gallery Dublin established a new AIR programme that would see artists work closely with the Dock's Human Insights Lab team, to collaboratively develop an original commission for a Science Gallery exhibition. According to the original call they sought an "artist who is interested in exploring a systems perspective on addressing big societal challenges – one in which business, technology and society are interrelated as a problem-solving system."[20] The inaugural programme artists were Artist-designer collective *Multiplay*. Owing to the residency coinciding with COVID-19, the residency took place remotely but the resultant exhibition was subsequently installed in the Science Gallery in 2021. On the promotion of the exhibition, Jess Majekodunmi, from Accenture's The Dock said "the ambition of the residency was to invite in fresh radical perspectives into conversations about innovation. Their role, of artists in the world is to fearlessly challenge the world around them, and that's exactly what they did in the collaboration with us [Accenture] and they really pushed our thinking forward, and I think if we really want to innovate for people and for society then we have to figure out better collaborations across boundaries."

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[20] https://sciencegallery.org/opencall/systems-accenture-artist-residency

Edinburgh Futures Institute (EFI) Experiential AI Residency

(Edinburgh, UK)

Time Active: 2019 - Present

Type of Enterprise: Academic

Role of Enterprise: Co- Sponsor

Funding: Funded

Type of Practice / Output: Undefined

URL: https://efi.ed.ac.uk/art-and-ai-artist-residency-and-research-programme-announced/

Figure 16: Anna Ridler, Mosaic Virus 2019. Image Source: https://efi.ed.ac.uk/the-inaugural-experiential-ai-artist-residency/

As part of the European ARTficial Intelligence Lab (co-funded by the EU Creative Europe Programme), the Experiential AI group at the EFI initiated an AIR programme. The residency is split between EFI, the Bayes Centre, the University of Edinburgh's innovation hub for Data Science and Artificial Intelligence and the Ars Electronica Futurelab in Linz, Austria. International artists are invited to come to Edinburgh use their work to examine the cultural, ethical, psychological and philosophical aspects of AI. In 2020, the inaugural artists selected were Caroline Sinders and Anna Ridler. According to Drew Hemment of the EFI, "we were looking for artists who would want to actively participate in research as full collaborators."[21] They will collaborate with the Experiential AI research group to investigate hidden dimensions in AI systems, and to experiment with new models for collaboration between artists and AI researchers.

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[21] https://efi.ed.ac.uk/the-inaugural-experiential-ai-artist-residency/

Digital Hub Artist in Residency

Dublin, IE

Time Active: 2018 - Present

Type of Enterprise: State Agency / Private Technology Companies

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Various

URL: https://www.thedigitalhub.com/news/the-digital-hub-welcomes-artist-in-residence-to-dublin-8-campus/

Figure 17: Fiach Mac Conghail, CEO of The Digital Hub and artist-in-residence Elaine Hoe, source: https://www.thedigitalhub.com/press-release/the-digital-hub-launch-latest-artist-in-residence-programme/

The Digital Hub is a technology campus in central Dublin. The AIR programme is claimed to be a key part of The Digital Hub's mission of creating a diverse and creative technology quarter. On the AIR, Fiach Mac Conghail, CEO of The Digital Hub said: "As a part of our mission of creating a diverse and creative technology quarter, it is important to us that we include artists amongst our community. Our residency programme for visual artists allows us to engage in a more sustained and creative way with this mission."[22] Artists are provided with desk space in The Digital Hub for the duration of the residency. The current AIR is Elaine Hoey, an artist who specialises in creating experiences which explore the evolving relationship with digital practices and the politics of digital humanity. As part of the residency, she is programming a series of events that explore the discourse surrounding the ethics and challenges of AI in art and business.[23]

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[22] https://www.thedigitalhub.com/news/the-digital-hub-welcomes-artist-in-residence-to-dublin-8-campus/

[23] https://www.thedigitalhub.com/press-release/the-digital-hub-launch-latest-artist-in-residence-programme/

Grand Canal Innovation District Artist in Residency

(Dublin, IE)

Time Active: 2020 - Present

Type of Enterprise: Academic / Urban Development

Role of Enterprise: Sponsor

Funding: Funded (€33K)

Type of Practice / Output: Open

URL:https://www.tcd.ie/innovation-district/news/2019/12/artist-in-residence/

Figure 18: A mural at the site of the Grand Canal Innovation District, Dublin, Image Credit: https://www.tcd.ie/innova-tion-district/news/2019/12/artist-in-residence/

As part of the development of the Grand Canal Innovation District (GCID), Trinity College Dublin launched a call for an artist-in-residence position within the Trinity Technology & Enterprise Centre. The aim is to enable the artist to develop new work through a collaborative process of engagement with communities which should include local residents, community groups and school children and may also include technology and creative start-ups and businesses. The GCID will act as a connector for indigenous and multinational companies, academic researchers from both Irish and international universities, venture capitalists and start-ups as well as members of the local community. The new campus will have a focus on technology and creative arts, housing researchers, industry and start-ups, as well as providing a welcoming space and opportunities for local residents. The artist-in-residence is expected to produce new work, engage with the history and culture of the area and site, as well as considering the proposed plans for development. It is intended that this artist-in-residence position will be the beginning of a long-term commitment to integrating art into the campus and wider innovation district.[24]

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[24] https://www.tcd.ie/innovation-district/Trinity-grand-canal-artist-in-residence.pdf

Zurich University of the Arts (ZHdK) Artists-in-Labs

(CH / International)

Time Active: 2003 - Present

Type of Enterprise: Academic

Role of Enterprise: Unknown

Funding: Unknown

Type of Practice / Output: Publications / Varied

URL:https://artistsinlabs.ch/en/

Figure 19: Examples of publications from the artists-in-labs programme. Source: https://artistsinlabs.ch/en/

The artists-in-labs (AIL) programme as part of the Department of Cultural Analysis (DKV) of the ZHdK has been facilitating artistic research by way of long-term residencies for artists in scientific laboratories. The programme's interdisciplinary and cross-border collaborations provide artists with an opportunity to critically engage with the sciences and their experimental and aesthetic dimensions. This includes explorations of the site of the laboratory, as well as a range of scientific topics, methods and technologies. The motivation of the AIL programme lies in the interaction and expansion of types of contemporary knowledge and artistic production, and the creative potential resulting from exploring the parallels and differences of scientific and artistic practices. Publications along with accompanying scientific research record the processes and results of these cross-border collaborations and offer reflections on them.

Planet Labs

(US/DE)

Time Active: 2013 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output:

URL: https://www.planet.com/company/art/

Figure 20: Promotional photo from Planet Labs AIR programme, Source: https://www.planet.com/company/art/

Planet Labs, an earth imaging company that launches satellites into space, invites four artists a year to work alongside the team of scientists and technologists, sparking new collaborations that bridge art, science, and the planet. The Planet Labs programme interacts with art and artists in a number of specific ways. Firstly, artists are given the opportunity to decorate satellites that will be put in to orbit with laser etched images, secondly the artist is given a studio space to produce works that will be displayed in the offices of Planet Labs and finally, the artist gives practical workshops to the staff of Planet Labs in skills such as drawing, painting etc. The artists are paid a monthly stipend of $1,000 for the duration of the three-month residency after which they retain ownership of any work produced following its documentation. Artist are expected to engage in "community activities" within the organisation for the duration of the residency.

Autodesk Residency

(San Francisco, Boston, US & Toronto, Canada)

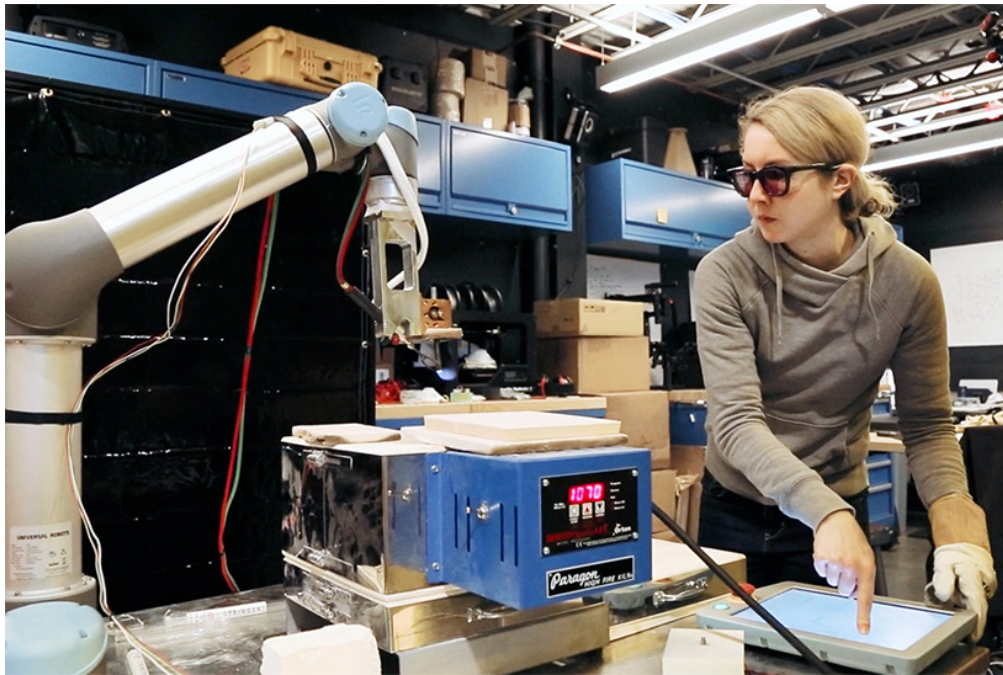Time Active: 2012 – 2018 (Formerly as an AIR) / 2018 - Present

Type of Enterprise: Private Technology

Role of Enterprise: Sponsor & Collaborator

Funding: Funded

Type of Practice / Output: Various

URL: https://www.autodesk.com/technology-centers/residency

Figure 21: Autodesk Artist in Resident Stefanie Pender working with robot in 2017. Image credit: https://www.design-boom.com/art/stefanie-pender-robot-glassmaking-autodesk-04-17-2017/

The residency programme at the Autodesk Technology Centres in Boston, San Francisco, and Toronto provides open workspaces and equipment for teams from industry, academic and start-up communities doing work in the areas of construction, manufacturing, and emerging technologies. This current Autodesk residency replaces the former artist-in-residence programme by instead centering on entrepreneurial communities. These new residencies are intended to support "design and innovation, material research, and fabrication workflows". [25] Successful participants are provided with access to subject matter experts, training, and state-of-the-art fabrication equipment. The residencies for 'innovators' can last anywhere from one month to more than a year.

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[25] https://www.autodesk.com/technology-centers

CÚRAM Artist in Residency (IE)

Time Active: 2015 - Present

Type of Enterprise: Research Centre

Role of Enterprise: Sponsor

Funding: Funded

Type of Practice / Output: Various

URL: http://www.curamdevices.ie/curam/public-engagement/artists-in-residence/

Figure 22: *Artwork 'Afterimage' by Cleary Connolly 2018. Source: https://curamdevicesengage.ie/school-resource/afterimage/*

CÚRAM is a research centre that designs the next generation of 'smart' medical devices. Since 2015, CÚRAM has hosted artist residencies in its laboratories. CÚRAM's Art and Science programme creates links between the scientific and artistic communities to support the art-science discipline while increasing interest in science and current research. An example of one such residency is that of artist duo Cleary Connolly who developed the 2017-2018 art-science project entitled 'AfterImage', with members of the local community, using the research being carried out at CÚRAM as their inspiration. They design interactive environments that often integrate new technologies and with this project, created a permanent artwork which acknowledges the various local communities and celebrates their connection to CÚRAM and the MedTech Industry.[26]

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[26] https://curamdevicesengage.ie/school-resource/afterimage/

CONSULTING

Cases in which artists and artist methodologies are employed by enterprise for specific, usually short term, engagements and which often have identified aims and goals.

The cases indexed under the category 'Consulting', reflect a wide variety of practices and processes in which the artist acts as a type of consultant to enterprise and the work of art and the adjacent artistic methods are remodeled into a vehicle for transforming organisational and business processes.

Conexiones improbables

(Vitoria-Gasteiz, ES)

Time Active: 2010 - Present

Type & Role of Enterprise: Non-profit / Consultancy

Type of Practice / Output: Workshops, training activities

URL: www.conexionesimprobables.com

Figure 23: *Image from collaborative project between artist Paola Guimerans and industrial company Silliconas Silam, 2013. Image source: https://conexionesimprobables.es/v2/Silam-Paola-Guimerans--eng*

Conexiones Improbables defines itself as a community of collaborative and co-creative research initiatives aimed at innovation and social responsibility. It describes itself as a "platform that promotes and develops open innovation projects."[27] It sets out to achieve this by implementing a hybrid methodology that combines the needs and challenges of companies or organisations with the creativity and expertise of artists or creators to obtain alternative results. It encourages responsible innovation in terms of impact, sustainability, commitment, deep-rootedness and radicalness. It brings not only artists, but also other kinds of "improbable" thinkers (e.g., scientists, philosophers) into organisations in diverse sectors for collaborations lasting between 8 and 10 months. It develops short artistic interventions aimed especially at small and medium sized enterprises and social organisations.

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[27]   https://conexionesimprobables.es/v2/New-business-open-innovation-Methodology-Conexiones-improbables-eng#

Sineglossa

(Ancona, IT)

Time Active: 2007 - Present

Type & Role of Enterprise: Consultancy

Type of Practice / Output: Artistic Interventions, storytelling, art exhibitions

URL: www.sineglossa.it

Figure 24: Image from collaborative project between artist Emilio Vavarella and a group of entrepreneurs, 2019. Image source : https://www.sineglossa.it/en/portfolio_page/amazons-cabinet-of-curiosities-eng/

Sineglossa is a private consultancy that applies the processes of contemporary art to non-artistic contexts – businesses, scientific research centres, public bodies – in order to generate new models of development and innovation. The website claims that "As a research centre, we shape new methodologies; as a cultural organisation, we implement best practices by matching artists with universities, public administrations and enterprises in order to create complex ecosystems where knowledge, skills and visions are blended to generate innovation."[28] Project outputs include exhibitions, festival programming and collaborations with private businesses. An example of this is 'Amazon's Cabinet of Curiosities (Algorithmic Inquiry n.1)', a work of art created during a workshop in which Emilio Vavarella and a group of entrepreneurs addressed the issue of the relationship between human intelligence and artificial intelligence.

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[28] https://www.sineglossa.it/en/ecosystem-faq/

Creative Tech

(Paris, FR)

Time Active: Unknown- Present

Type & Role of Enterprise: Creative consultancy

Type of Practice / Output: Artistic performances, events, exhibitions

URL: https://thecreativetech.fr

Figure 25: *Image from collaborative project between Groupe Zekat / Compagnie Mêtis / Polytech Angers, 2020. Image source: https://thecreativetech.fr/en/project-en/groupe-zekat-compagnie-metis-polytech-angers/*

CreativeTech proclaims itself to be "a cultural engineering agency that orchestrates the meeting of artists, scientists and entrepreneurs to generate innovation, events and exhibitions." They aim to develop new products and services, to enhance the external visibility of companies and institutions, and the commitment of employees. An example of their work is 'Culture in the Future' initiative which aimed to bring together the economic, cultural and technological actors of the Loire region by involving them in a common project. The first edition of this initiative focused on manufacturing activity, in relation to the regions' industrial heritage and its flagship enterprises. It brought together manufacturing companies, artists and engineers with the ambition to make innovation emerge at the service of the human being, the renewal of the gesture, the transformations at work. The specific objective was to question the influence of robotics, cobotics, artificial intelligence, virtual, mixed and augmented reality, on new forms of "manufacture" thanks to the collaboration of companies, artists and scientists. The immersion of the artist or the collective in the company is facilitated by the CreativeTech team in so-called "Creative Factories", over a period of 6 to 8 months. Five industrial groups took part in the first edition, among them ZeKat Group, a company specializing in robotic systems, IoT and embedded computing, worked with Compagnie Mêtis and engineering students from Polytech Angers on a performance based on human-machine interactions. La Compagnie Mêtis staged ZeKat's technologies in a show orchestrating the dystopias and utopias linked to machines. To make this project come true and convey feelings, Polytech Angers, most specifically the SAGI-LARIS laboratory, contributed to software and theatrical programming.
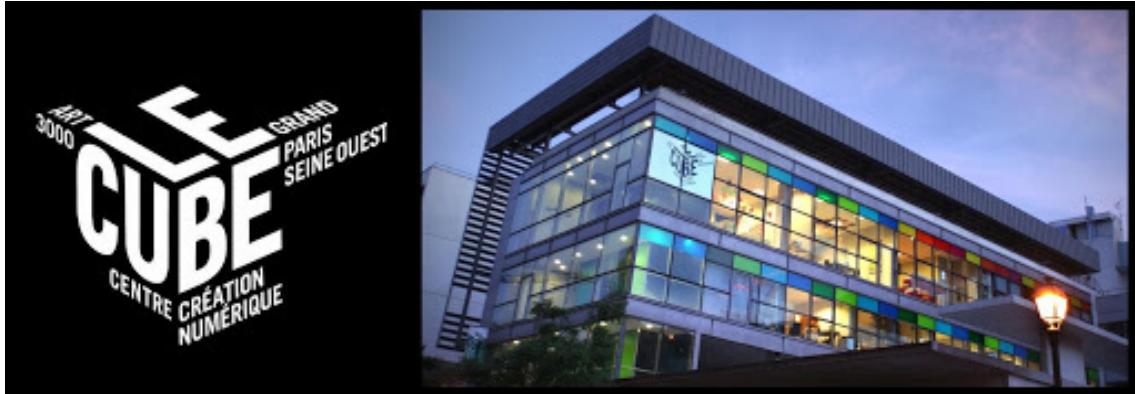
The Cube, France

(Issy-les-Moulineaux, France)

Time active: 2001-Present

Type of Enterprise: Cultural Consultancy / Training

Type of Practice / Output: participatory events, conferences, performance, etc.

url: https://lecube.com/cube-executive/

Figure 26: Exterior image of Le Cube. Source: http://retro.newmediafest.org/16-april-2012/

Le Cube is a centre for digital creation for public audiences. Part of its mandate includes providing training schemes focusing on digital and the human being, immersive experiences encouraging team spirit and makes available spaces for digital practices. These can take the form of augmented conferences, experimental workshops and immersive training. An example of output is the 'augmented conferences', which bring together researchers, experts, activists and artists, to decipher the changes in society and organizations linked to technological developments. The Cube's innovative interaction devices promote more individualized, participatory and creative ways of learning. Cube Executive's work is based on recent pedagogic innovation, digital arts and a wide network of experts. It works in partnership with digital/innovation centres and agencies in Paris and its region, academic partners, training providers and an art school. The Cube's support paths are aimed at managers, innovators and young talents to help them decipher and act in the face of digital transformations.
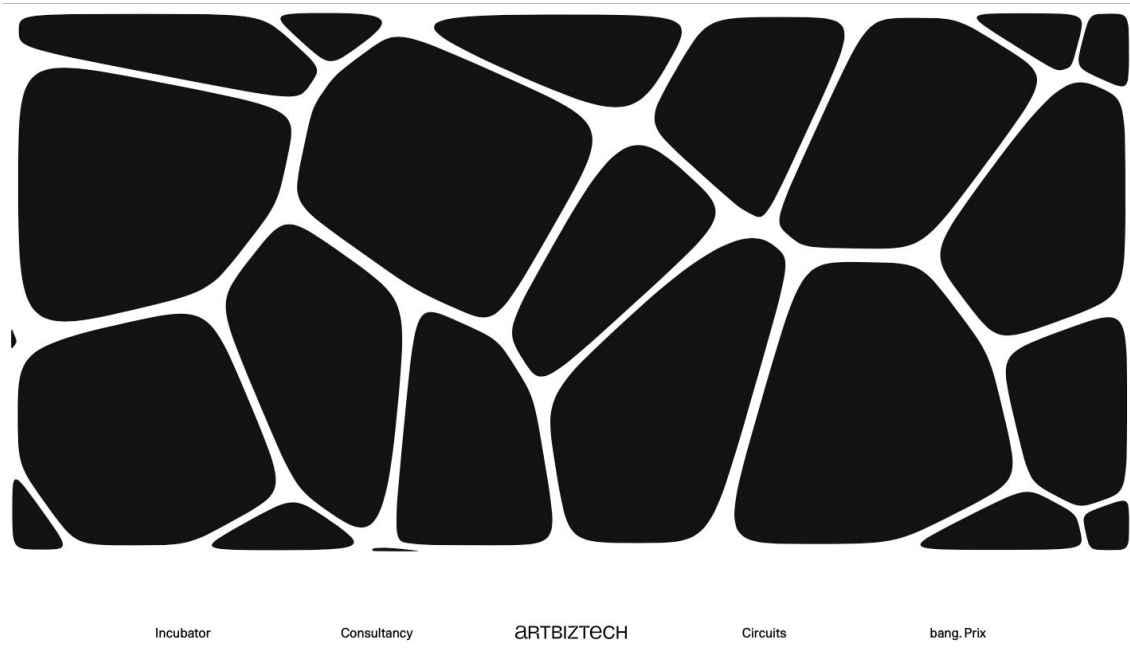
ArtBizTech

(Turkey / International)

Time Active: 2020 - Present

Type / Role of Enterprise: Business Consultancy

Type of Practice / Output: Consultancy and Incubator

URL: https://artbiztech.com/

Incubator   Consultancy   ARTBIZTECH   Circuits   bang. Prix

Figure 27: ArtBizTech homepage. Source:artbiztech.com

ArtBizTech are a new strategy and innovation consultancy that focuses on "rethinking business and technology through artistic research".[29] According to their website, their work aims "to introduce a new language for businesses and organisations to reframe the most critical challenges of our time. Along with an ever-evolving set of technological opportunities and risks, the future of many sectors relies on crucial decisions made today on ethics, sustainability and responsibility." Alongside consultancy work for business, Artbiztech also operate as an incubator that "exercises artists as initiators of projects and enterprises".[30]

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[29] https://artbiztech.com/

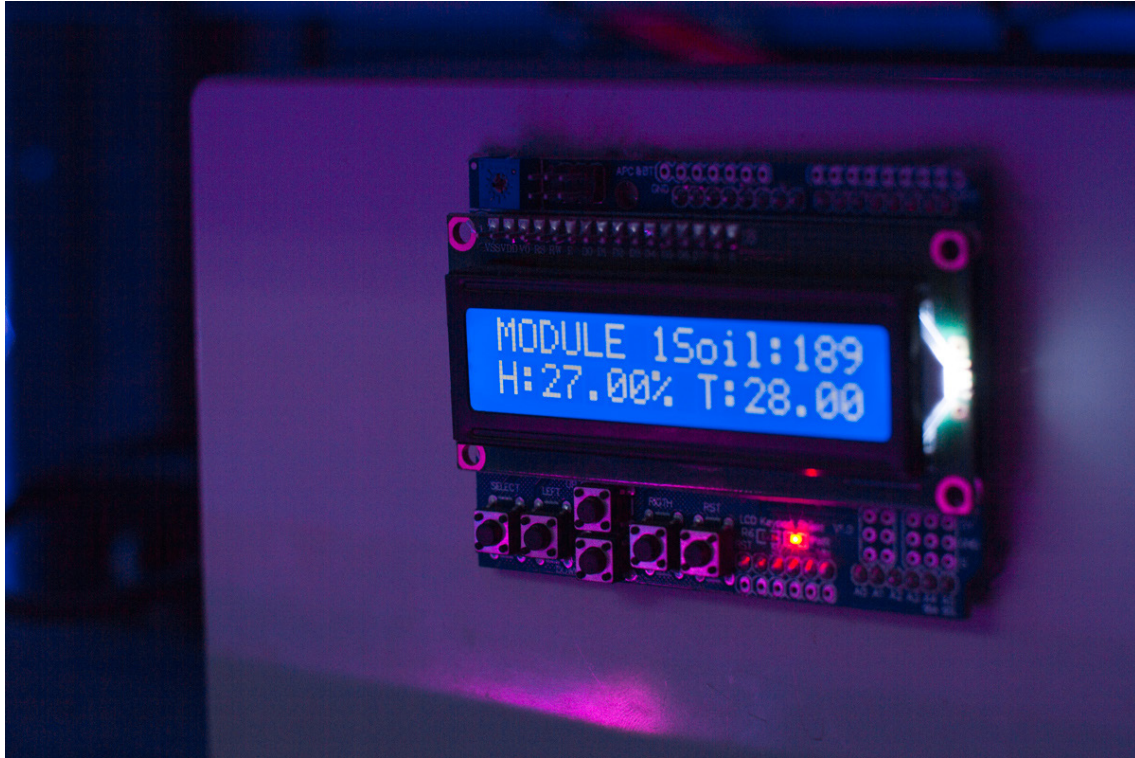[30] https://artbiztech.com/consultancy

Superflux

(London, UK)

Time Active: 2009 - Present

Type & Role of Enterprise: Design / Consultancy

Type of Practice / Output: Exhibitions, workshops, speculative fictions

URL: https://superflux.in/

Figure 28: *Installation view of project 'The Mitigation of Shock' Source: https://superflux.in/index.php/work/mitigation-of-shock/#*

Superflux is a design agency that offers consultancy services in Strategic Imagination, Foresight Research, Speculative Design and Experiential Futures. Founded by graduates of the Royal College of Art, in London, Anab Jain and Jon Ardern, they design stories, scenarios, strategies, prototypes, films, live experiments, super fictions, cautionary tales, and situational interventions that often concern technological futures. Over the past 12 years Superflux has worked with a wide variety of organisations including Google AI, Deepmind, Omidyar Network, Government of UAE, Innovate UK, Cabinet Office UK, Future Cities Catapult and the United Nations Development Programme to imagine and plan how they can effectively navigate uncertainty, discover emergent business models and maintain competitive edge.[31] Superflux have also exhibiting work at MoMA New York, the National Museum of China, and the V&A in London.

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[31] https://www.linkedin.com/company/superflux/about/

EMBEDDING

Cases where art practices are central to the enterprise functioning or operations, even though they might not always be explicitly identified as such within the enterprise.

The category 'Embedding', broadly relates to cases where the boundaries that define artist and enterprise, or that define art practice and commerce are far more diffuse. In many cases the enterprises discussed in this section have sprung out of particular arts practices or particular projects, in others the existence of the company itself or the work it does is positioned as an art practice in and of itself. For others, its present state might not be considered an art practice but its origins in an art practice context make it worthy of study. Despite, or perhaps because of, these less diffuse boundaries and clear definitions, the examples in this section are potentially highly informative to understanding the possibilities of art and enterprise engagements as they contain some of the more experimental models, emerging forms of organisation and alternative forms of value and exchange.

New Inc

(New York, US)

Time Active: 2014 - Present

Type of Enterprise: Various Private Technology

Role of Enterprise: Incubator

Funding: Funded

Type of Practice / Output:

URL: https://www.newinc.org/

Figure 29: Promotional image for NEW INC. Source: https://www.newinc.org/

NEW INC was conceived of as an incubator for artists and cultural practitioners. As an offshoot from the New Museum, the contemporary art museum in New York, NEW INC claims to 'incubate everything from social enterprises to venture-scale start-ups to creative studios to influential new artworks'. It is self-described as 'a not-for-profit platform for furthering the New Museum's ongoing commitment to new art and new ideas'. NEW INC's membership model supports a diverse range of creative practitioners with a values-driven program and safe space for gathering and developing new creative projects and businesses. Within the New Inc profile, it lists '100 creative entrepreneurs annually, 550 jobs created to date, and 277 businesses created or retained'. Members of NEW INC can operate from a shared workspace which also includes a community event space, a media production lab and a fab lab space. Amongst its programme partners, it lists Nokia Bell Labs, the Knight Foundation, Science Sandbox and Rhizome.

Fairphone

(Amsterdam, NL)

Time Active: 2013 - Present

Type / Role of Enterprise: Social Enterprise

Type of Practice / Output: Product Development

URL: www.fairphone.com

Figure 30: Fairphone publicity image, Fairphone - image: fairphone.com

Fairphone is a social enterprise that was founded in collaboration with arts practice. Initially stemming from urban mining workshop hosted by art, technology, and cultural institute De Waag in Amsterdam, Fairphone is a mobile phone manufacturer that aims to address electronic waste and environmentally and ethically destructive practices of extraction, production and disposal. Fairphone attempts to use non-conflict minerals that are extracted through fair labour practices or recycled materials mined from its electronics recycling programme. In addition, its products are built to be repairable and modular so that parts can be replaced thus reducing disposability (Fairphone). Although Fairphone exists within the commercial economy, it can be seen as proposing an alternative technological and commercial system within this context, one that is based on circularity rather than linear, extraction-production-disposal and which posits an alteration of the dominant arrangement with resources and re-source use.

Tactical Tech

(Berlin, DE / International)

Time Active: 2003 - Present

Type / Role of Enterprise: NGO / Advocacy

Type of Practice / Output: Workshops, exhibitions, publications

URL: https://tacticaltech.org/#/

Figure 31: *Installation view of the Glass Room exhibition in New York, 2016. Source: theglassroomnyc.org*

Tactical Tech are an advocacy organisation, based in Berlin but working globally to bring to light the social implications of digital technologies. It's co-founder Stefanie Hankey is originally trained as an artist. They provide trainings, conduct research and create cultural interventions that contribute to the wider socio-political debate around digital security, privacy and the ethics of data. One such cultural intervention is 'the Glass Room', interactive exhibition, which was produced in partnership with Mozilla and since 2016 has toured venues around the world. It examines how different ways of understanding how technologies and data are changing our lives. Tactical Tech work with an international audience of engaged citizens and civil society actors to investigate and mitigate the evolving impact of technologies on society. They have also on occasion worked with technology companies like Google to run workshops on the socio-cultural implications of internet technologies. Their techniques are informed by cross-disciplinary expertise in political engagement and technology. Their methodologies uses an iterative, design-based way of thinking, creating a continuous loop between ideas, testing and development. The aim is to make the issues accessible – at times fun and at times challenging – but most importantly, to create interventions that make these issues relevant and accessible to different audiences.

Superrr Lab

(Berlin, DE / International)

Time Active: 2019 - Present

Type & Role of Enterprise: Non-profit / Advocacy

Type of Practice / Output: Workshops, exhibitions, publications

URL: https://superrr.net/

<u>Figure 32</u>: *Installation view of the Glass Room exhibition in New York, 2016. Source: theglassroomnyc.org*

Superrr Lab is an independent non-profit research and advocacy organisation founded by Elisa Lindinger and Julia Kloiber. Driven by feminist and intersectional values such as equity, diversity, creativity and curiosity, it draws together people from the arts, science, technology and activism to develop new projects, initiatives and organisations. In stating its mission, Superrr Lab aims "to explore and develop the potentials of new technologies for society and diversity. We challenge existing paradigms by bringing new perspectives and stakeholders to the discussion. We work with civil society, political decision makers and the tech industry." Among their projects is the 'Feminist Tech Fellowship', which is funded by the Mozilla Foundation and designed for "artists, writers, activists, technologists, creatives – who set out to explore new narratives that counter dominant big tech visions."[32]

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[32] https://superrr.net/feministtech/

Graph Commons

(New York, US / International)

Time Active: 2010 - Present

Type & Role of Enterprise: Private Enterprise

Type of Practice / Output: Data mapping and visualization platform

URL: https://graphcommons.com/

<u>*Figure 33*</u>*: Example of Graph Commons output. Source: https://graphcommons.com/*

Founded by Turkish artist Burak Arikan,[33] Graph Commons is a collaborative platform for mapping, analysing, and publishing data-networks. Graph Commons is used by organisations and individuals to transform data into interactive maps and to visualise complex relations. Organisational analysis, Investigative journalism and content curation are some of the use cases on Graph Commons. On the Graph Commons website, they list user organisations like Tate Museums, Dow Jones, Columbia University and HM Government. Graph Commons is free to use for public and open data projects but also offers additional paid services for organisations.[34]

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[33] https://burak-arikan.com/

[34] https://graphcommons.com/plans

Dyne / Denis "Jaromil" Roio

(Amsterdam, NL)

Time Active: 2000 - Present

Type / Role of Enterprise: Open Source Software

Type of Practice / Output:

URL: Dyne.org

Figure 34: Denis "Jaromil" Roio Source: waag.org

Dyne.org is a non-profit software organisation, founded by Jamonil in 2000, gathering the contributions of a growing number of artisans and socially engaged developers. According to their website: "We facilitate artists, creatives and engaged citizens in the digital age, sharing tools, practices and narratives for community empowerment. Our software is not just about market products to satisfy consumer needs: it has implications that can be aesthetic, social, political, technical, spatial, linguistic, economic and numerical. Since the year 2000 a large amount of people and organizations employed and redistributed our creations: radio makers, film makers, artists, medics, activists and educators."
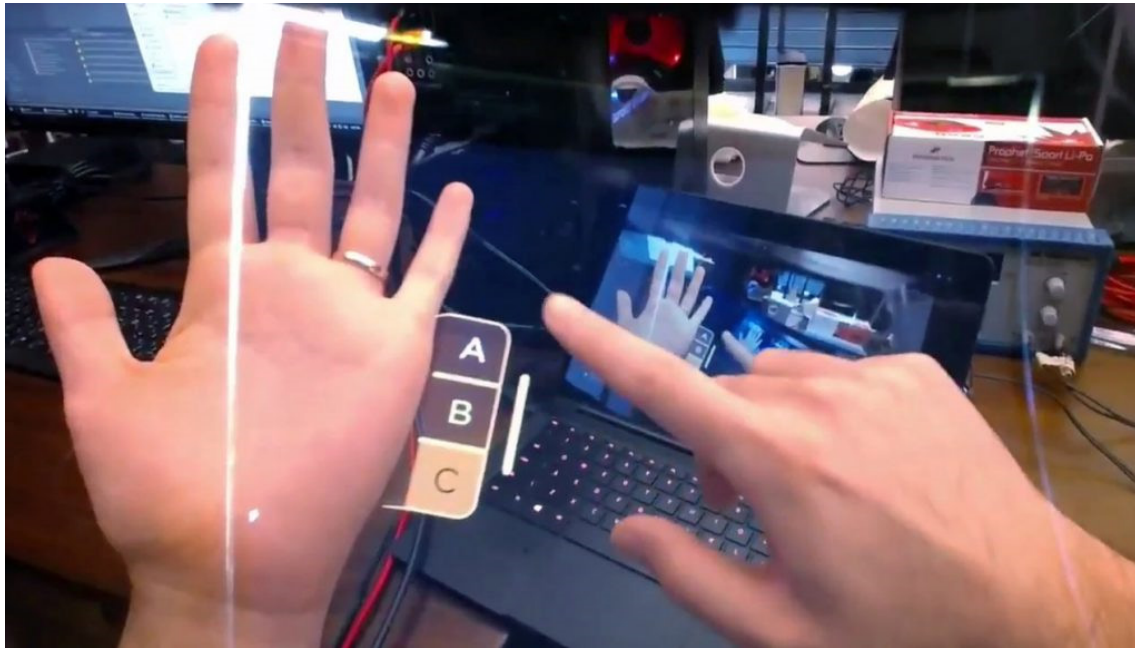
Keiichi Matsuda, Leap Motion / Microsoft

(London, UK)

Time Active: 2018

Type / Role of Artist: Product Developer

Type of Practice / Output: Technology Product Development

URL: https://blog.leapmotion.com/leap-motion-london/ ; http://km.cx/about

Figure 35: Screenshot of Matsuda teasing prototypes for how the Leap Motion tech can be applied to AR - image: https://www.leapmotion.com/

Keiichi Matsuda is a designer and film-maker. His work explores the collision of physical and virtual, as technology transforms society, and new realities are born. Keiichi's practice combines concept film-making and interaction design, to critically explore the future of everyday life. In 2018 he served as Leap Motion's VP Design in 2018, and he led the Mixed Reality experience design team at Microsoft while developing next-generation AR and VR devices.[35]

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[35] https://next.reality.news/news/hyper-reality-visionary-keiichi-matsuda-parts-ways-with-leap-motion-0189198/

Discussion

This report provides a mapping of contemporary artist and enterprise engagement specifically in relation to the digital transformation. In doing so, we note a number of significant emerging themes.

Increased Interest in Arts-Enterprise Engagement

Arts integration with enterprise is not new, it has a strong historical precedent in cases from the 1960s and 1970s, like the Artist Placement Group and Experiments in Arts and Technology. But through this mapping, we see how, particularly over the past five years, artist practices are gaining more interest from enterprises and technical institutions. This indicates that there is a growing number of enterprises and organisations who want to leverage artist practices in the development of digital technologies and applications.

Pronounced Focus on Certain Areas and Technologies connected to the Digital Transformation

From the mapping, we see a marked increase in the number of residencies in recent years, and particularly those focused on technological developments such as machine learning and artificial intelligence. In certain areas of the digital transformation, there is an absence in the engagement between artists and enterprise. For example, through the entire smart cities industry, there is practically no engagement with artist practices and very minimal engagement with art related practices such as architecture and design.

Certain Large Players Absent

Similarly, while artist engagements are increasing on a whole, there were some notable absences amongst major players in the digital transformation sector, including Amazon and Apple who don't host residencies. While the previously functioning Google Labs AIR as part of Google's Cultural Institute and Google Tilt Brush Artist in Residency, both appear to be no longer running. In its place Google are inviting artists to experiment with its technologies through a new AIR that focusses on wearable tech in collaboration with the fashion company Jacquard.

Diversity of Motivations

From the mapping, we also see that there is a wide variety of strategic goals from the perspective of enterprise for initiating these engagements. These range from widening the perspectives of engineers to implicitly addressing social, economic or political issues to using artists to leverage improved public relations. The recent influx of artist in residence programmes may be driven, in part, by the increasing urgency of issues such as algorithmic bias, data privacy, disinformation as well as larger movements towards addressing the wider ethical, socio-political and environmental implications of the digital transformation. At the same time, there seems to be a growing recognition among enterprise and technology development leaders, that artists and creative strategies are beneficial in terms of critiquing underlying presumptions about the relative value of outputs and diversifying future project developments.

Future Steps

This mapping makes the first steps towards understanding the landscape of Art-enterprise engagements, demonstrating the width and breath of these engagements. The cases outlined here facilitate further questioning of interpretation and evaluation for the different artist and enterprise parties involved, the impact for the design of technologies and the question of who stands to benefit most from these engagements?

As is evident from this mapping, there is little to no empirical information available on many of the Arts-Enterprise engagement, so it is difficult to describe their processes, outputs and impact in great detail and there are many important questions left unanswered. For example, what are the tangible and intangible forms of value creation for the parties directly involved and society at large? What are the various motivations and expectations of the different parties involved? We need the collective knowledge of leaders in the field to help codify what we believe to be true anecdotally. This knowledge is a prerequisite for developing more robust systems of support both for artists and for enterprises that will ultimately, enhance the positive impacts this kind of artistic practice seeks to have. It will help not only help trainers and academics work more efficiently and collaboratively, but also provide a basic knowledge base to novice and experienced practitioners. It will also help to demonstrate the impact of this kind of work to a larger and more diverse group of funders to help them recognize these interventions as effective practices worthy of their investments.

Therefore, the next step is to undertake in-depth case studies into the processes of Arts integration in enterprise. This will include interviews with both Arts professionals and people representing enterprise sectors, in order to gain deep insights into the integration of the arts within enterprise, with particular reference to the ongoing digital transformation. This will be dealt will through the case studies of 3.3.

In addition, now that there is a foundational mapping of the field (which will continue to capture more cases), there is an opportunity to develop common definitions, best practices and a shared understanding of how these relationships and practices work.

Endnote

This is an open, ongoing and collaborative indexing of Arts and Enterprise engagements, which will be updated throughout the course of the project. If you would like to be included in the mapping, please contact us. Do you know a project that could be part of the project? Please let us know and send us an email to fmcdermo@tcd.ie

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Appendix 1: Template for Organisational Survey

This survey, as part of the Artsformation project, is intended to examine how, where, and when enterprises choose to integrate the Arts and to what extent this integration reflects meaningful input. This survey will be conducted among European enterprises which operate broadly in the field of the digital transformation, ranging from SMEs to MNCs. The primary aim of this task is to facilitate smoother interaction between enterprise and the Arts, through the process of identifying roadblocks and areas for fruitful collaboration. The following is a list of questions designed to gather information on the status and/or potential of arts engagement with your enterprise or organization. We invite you to respond to this survey in any way you choose, drawing on your experience.

1. Background Information

Name and Location of organisation/enterprise:

Type of organisation/enterprise:

Relationship of organisation/enterprise to the Digital Transformation?

Does the organisation/enterprise engage with artists / arts-based practices?

If yes, please complete the questions under section '2A. Existing Arts Integration'

If no, please complete the questions under section '2B. Potential for Arts Integration'

2.A Existing Arts Integration

Please provide detail of the engagement (e.g. context, timeframe, process, outcomes, etc.)

What is the intention or goal of the existing arts integration within the enterprise?

What is the relationship and conditions of the engagement between your organisation/enterprise and the Arts?

Did the experience of Arts integration influence your organisation/enterprise in any way? If so, how?

Did you think that the integration within your organisation/enterprise influenced the work of the artist in any way? If so, how?

Did the experience of Arts integration within your organisation/enterprise meet your original expectations?

What, if any, were the key successes and challenges of Arts integration within your organisation/enterprise?

If you had an opportunity to change or improve this instance of Arts integration within your organisation/enterprise in any way, what would you do?

2.B Potential for Arts Integration

Would your organisation/enterprise potentially be interested in engaging with artists / arts-based practices?

What do you hope will change or emerge as a result of the arts integration within the organisation/enterprise?

What, if any, are the current roadblocks for organisation/enterprise to engaging with artists / arts-based practices?