"Adding socio-economic value to industry through the integration of artists in research and open innovation processes"

DELIVERABLE 4.6

First Report on Residencies

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Executive Summary

This deliverable provides a first report on the STARTS Residencies. It specifies all the motivations and the formal elements of the monitoring process, and explains the choices and decisions made in the process of its elaboration in relation to the other work packages.

The whole evaluation process is operated on the assessment documents provided by the four monitoring partners: IRCAM (leader), Inova+, Art Share and EPFL. The figures and tables shown in this document are extracted from the data produced by the artist, the tech project, the producer (if any) and the STARTS Residencies monitoring partner.

The core part of this deliverable is dedicated to explaining the motivation of the monitoring process of the residencies (Section 1), to expose the common protocol used to assess and monitor the residencies (Section 2), and to deliver an up to date view of the already selected residencies (Section 3). Since only 4 of them are completed at the date of production of this document, it is really to early to draw general conclusions on the process and the produced outcome, which will be documented in further deliverables.

The annexes contain the monitoring document templates (Annex A) and the global assessment document (Annex B).

SECTION 1 – Key features and data describing a residency

This section focuses on recent advances in the residencies monitoring methodology and procedures. For previous elements on the general methodology and calls, the reader is invited to consult deliverables:

- D2.1 Co-Creation Methodology
- D4.1 Residencies Chart and Contract Template
- D2.3 Report Co-Creation Processes

Each residency is followed by one VERTIGO partner, among IRCAM, Inova+, Artshare and EPFL, called the monitoring partners. The data collected by the monitoring partners aim at presenting the residency in various angles and for different purposes:

- General understanding of the residency
- Public communication
- Technical presentation of the Artwork
- Elements on the co-creation process for publications
- Assessment data and SWOT.

Each residency is summarized by a presentation document, updated throughout the implementation period, by the monitoring partner. This presentation document (template in annex A.22) aims at giving a short view of the residency and contains:

- **Five keywords**: Area of research, artistic domain, global categories...
- **Residency abstract**: Short description of the residency. The abstract presentation would be use for communication purpose, reports and deliverables, storytelling for dissemination.
- **Specificities of the residency**: What makes the residency special (technics, human, co-creation process, art-science relationship…)
- **Innovation impact**: Innovative aspects of the residency. From the tech project prospective: How the project uses the residency in its deliverables? Publication citing/co-writing? Research report? From the artist prospective: How they use the technology in the artwork? How do they use the tech project for dissemination? How do they absorb the technology in their artistic practice? From the public prospective: How do the public see the societal impact?
- **Public exposure**: Event featuring the residency, public exposure, press articles with measurement of their corresponding impact, medias…

This presentation document, the public report written by the artist at the end of the residency (the template of which is given in annex A.16) and the post-residency questionnaire (the template of which is given in annex A.18) together produce data related to:

- The artwork

- The residency methodology
- The co-creation process
- The impact (research impact, artistic impact and innovation impact)
- Art-science relationship
- Future direction and actions

These are the main features the description of a residency is built on. In each category, qualitative and quantitative data are produced following a common protocol.

SECTION 2 – Protocol for residency assessment and monitoring

The monitoring and assessment of the residencies methodology has been completely renewed after an observation phase corresponding to the end of the first terminated residency. Thus, this renovation takes into account:

- The advices of the first Advisory Board Meeting (September 2017).
- The feedback coming from artists, tech projects coordinators, producers and STARTS Residencies monitoring partners.

The main objective of the new methodology is to ensure the proper execution of the residency and to collect consistent and comparable data on all residencies, while minimizing the procedural aspect.

Among residencies data, we refer to communication supports (storytelling, media, follow-up and information impact), technical data (for the dissemination of the resulting artwork), as well as various feedbacks on the co-creation process itself.

For this data to be consistent and comparable on all residencies, we produced a monitoring guideline document and a set of templates to the STARTS Residencies monitoring partners.

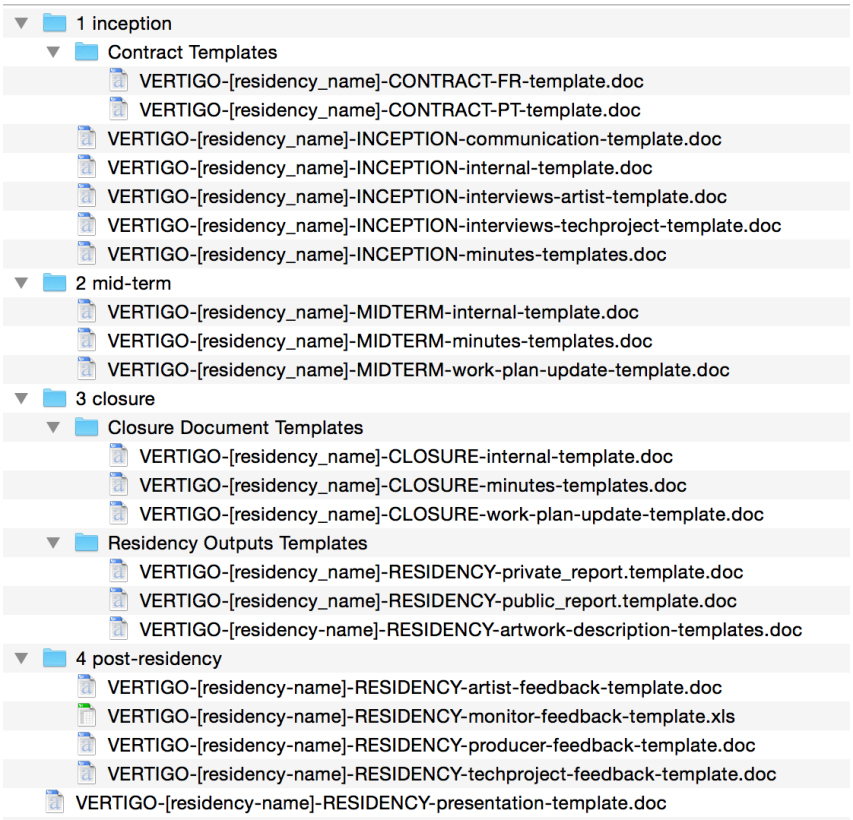

Figure 1 : Set of template documents for residencies monitoring available in the project's internal cloud

Pre-residency phase

- The monitoring partner liaises with the artist, the tech project and the producer to establish the contact between the different parties of the residency.
- The monitoring partner fills in the contract template with the information at its disposal and then let it circulate between the artist, the tech project and the producer.
- The monitoring partner asks the tech project for optional IPR (Intellectual property rights) aspects related to the co-creation process (e.g. use of open source software, licenses, etc.) that might be added to the co-creation contract.
- The monitoring partner set a date for the Inception Meeting with the artist, the tech project and the producer.

Inception meeting

Inception Meeting – this meeting shall mark the first day of the residency (official start date).

- Formal introduction of participants in the residency programme (who is who, previous experience, previous experiences in residencies);
- The artist and the producer present the artistic proposal submitted by the artist and describe its expectations on the collaboration.
- The tech project explains the challenges faced by the team and its expectations towards the contribution of the artist.
- The monitoring partner clarifies the ambitions and formal procedures of the STARTS Residencies programme
- The monitoring partner guides the discussion between the artist, the tech project and the producer on the final version of the Action Plan and residency project content, which shall be finalised at this meeting; including the Monitoring tools to be used to collect regular feedback on the progress of the work (online meetings, emails, blog for the communication);
- The monitoring partner gives the communication Kit to the artist, the tech project and the producer
- The monitoring partner presents the "communication duties" that the residency will have to fulfil:
    - Action on the blog:
        - One access for each residency is given
        - The artist/Tech project coordinator/Producer is welcome to publish (video, playlist sound, text, picture, graphic, infographic, animation)
        - The three questions to the artist
    - Pictures: the artist and the tech project have to send pictures regularly to The monitoring partner for Communication Partners to put on the website, and social media (this pictures can be pulled out of the blog)
    - Video: Production of a short video (2 or 3 minutes) at the mid-term of the residency
    - Public Events: Schedule of the exhibition/workshop in which the artist is taking part that the communication team can relay.

- Signature of the co-production contract by all parties and annex (Budget Plan and Action Plan)

- The monitoring partner interviews the artist and the tech project separately using the semi-structured interview guide.
- Conclusion of the inception meeting, potential scheduling of online meetings and mid-term meeting

- Right after the Inception Meeting, the monitoring partner should:
  - Produce the minutes
  - Upload the record of the interview on the cloud and transcribe the interview (at least the important parts)
  - Fill in the internal evaluation
  - Update the global monitoring document (adding a new numbered version
  - Scan the signed contract
  - Pay the artist (40% of total grant) (or ask the partner in charge of signing the co-production contract to do so - only for EPFL)
  - Once everything is done and uploaded on the cloud, the monitoring partner sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

Mid-term meeting

Mid Term Meeting - this meeting shall be held at the middle of the residency.

- The artist, the tech project and the producer present the progress done regarding the Action Plan, describing:
  - what worked well;
  - what needs to be improved and/or exist;
  - adjustments/changes made on the initial plan;
  - achievement of defined milestones;
  - revision of the following months and agreement on necessary changes.
- The artist, the tech project, the producer and the monitoring partner potentially updates the Budget Plan and Action Plan
- The monitoring partner reminds to the artist, the tech project and the producer the expected outcomes and present the available templates:
  - artwork description template;
  - private report template;
  - public report template;
- After the meeting the monitoring partner:
  - Writes the minutes
  - Completes the internal evaluation
  - Updates the global monitoring document
  - Pays the artist (40% of total grant) / or ask the partner to do so (for EPFL)
  - Once everything is done and uploaded on the cloud, the monitoring partner sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

Closure meeting

Closure Meeting – this meeting shall mark the final day of the residency (official end date).

- The artist, the tech project and the producer discuss the results and the residency process
- The artist, the tech project, the producer and the monitoring partner potentially update the Budget Plan and Action Plan
- The artist provides documents required in the co-production contract
    - The Artwork ready for public exposure in cultural venues [*only here for Category 1*], which may be in the form of sketches or prototypes but preferably in the form of achieved works [*only here for Category 2*], in the form of an achieved work and its fully functional technical setup;
    - The artist confidential report presenting the work done, the process followed for the execution of the residency in reference to its work plan, its outcomes, [and a financial annex presenting the incurred expenses by each Party in reference to the budget defined in Article 4]. The diffusion of the report will be restricted to the residency team, the Tech Project partners and the Tech Project Funding Body;
    - [*If relevant depending on the nature of the Artwork*] the artist production documentation of the Artwork describing the setup necessary for implementing it;
    - Public materials in English language presenting the main outcomes of the Residency: a video of 2 to 5 minutes and a 4 pages document at A4 format.
- After the meeting the monitoring partner:
    - Writes the minutes
    - Completes the internal evaluation
    - Updates the global monitoring document
    - Pays the artist (20% of total grant) / or ask the partner to do so (for EPFL)
    - Sends to parties the post-residency questionnaires.
    - Once everything is done and uploaded on the cloud, the monitoring partner sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

Post-residency phase

The artist, the tech project, the producer and the monitoring partner fill in the post-residency form.

- Once everything is done and uploaded on the cloud, the monitoring partner sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

SECTION 3 – Presentation of the selected residencies

This section provides a synthetic presentation of each residency as of November 2018, following the initial elements resulting from Calls #1 and #2 applications presented respectively in deliverables D4.2 Selection of Residencies - Call 1 and D4.3 Selection of Residencies - Call 2.

The presentation of the residencies is done in two steps: the Call 1 residencies, where the first residency started in September 2017, four of them are completed while six others are still running. The second step is composed of the Call 2 residencies, started in Summer 2018. Four of the residencies from Call 2 have not started yet by November 2018.

Residencies follow their own schedule, as a result one can observe disparities in the progress of the residencies. We have opted to leave some time for Call 1 residencies that would like to extend the residency deadline. We tried to be a bit less flexible with Call 2 residencies but some of them will still last more than one year in order to give time for artists and researchers to finalize their project. We will not have this flexibility for Call 3, as all the residencies should be completed by March 2020.

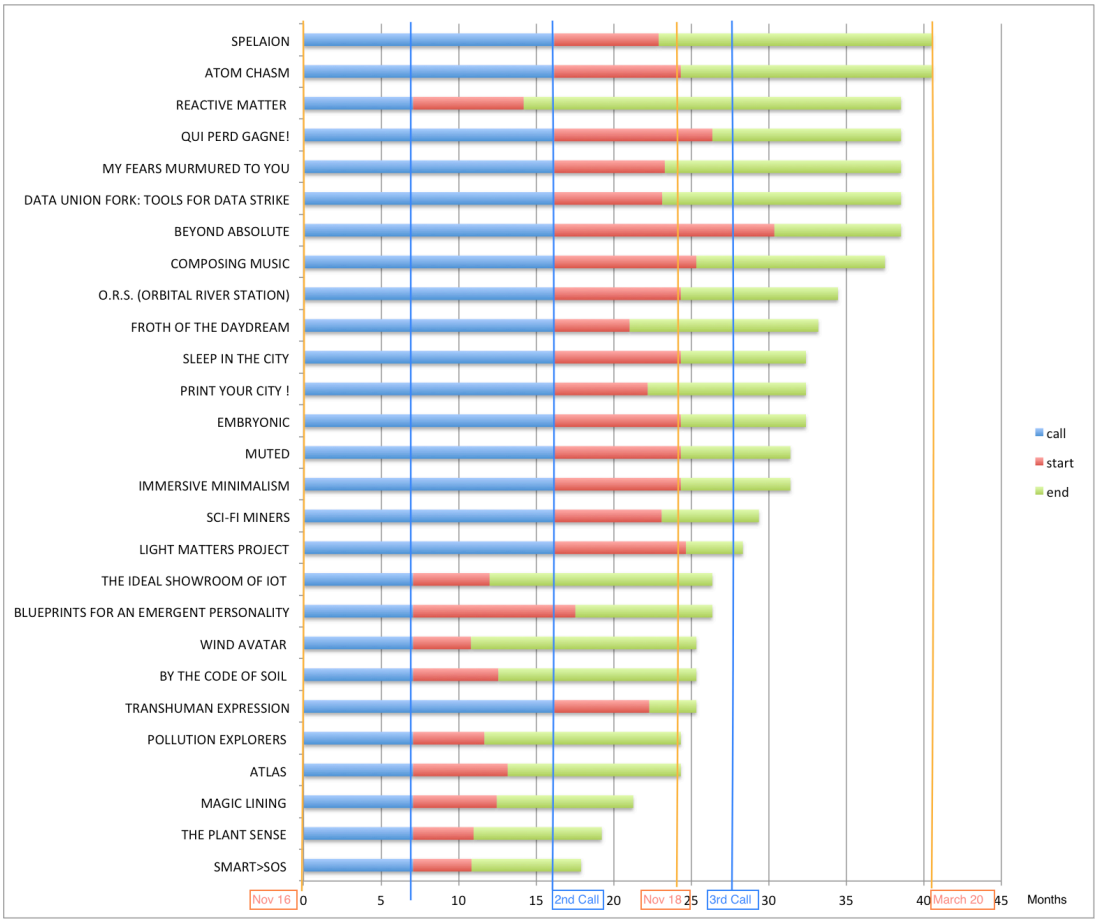

Figure 2: Gantt Diagram of the selected residencies duration (in green) throughout VERTIGO's duration

3.1 RESIDENCIES FROM CALL 1

3.1.1 ATLAS (Status: Completed)

- Tech Project name: WEKIT
- Artist(s) : Deval & Losseau
- Producer(s) :
  - Fédération Wallonie-Bruxelles
  - Cocof
  - Maison des Cultures et de la Cohésion Sociale de Molenbeek Saint-Jean
  - Fablab'ke
  - Wallonie-Bruxelles International
- Grant category: 1
- Date (Start-End): April 2017 - November 2018
- Residency location: Oxford, United Kingdom
- STARTS contract partner: ArtShare
- STARTS monitoring partner: EPFL
- Five keywords: Mixed, Reality, AR, VR, City, Seeds, Photogrammetry, Interaction, Visual, Principles

Residency abstract

Yann Deval is an interaction and motion designer based in Brussels. Marie-Ghislaine Losseau, a visual artist specialized in participatory scenography. On the other hand, Wekit enhances reality with various mediums (AR, wearables) to use as a new augmented medium, mainly for professional training.

Atlas is the fruit of their collaboration. It is a work at the meeting point of digital and visual art, and takes the shape of an interactive exhibition. In mixed realities, the user first experiences, without devices, the landscape of the exhibition, made up of dozens of wooden buildings. The user is invited to explore an archipelago of floating islands in VR and, ultimately, to build cities in AR between in the digital, dream-like world, and the real world. All layers of reality are interconnected. The buildings follow different urbanistic rules depending on where you build them (floating, on a wall…), and are all the results of workshops made in schools in Molenbeek.

There is no other goal than to build, wander, and alternate between layers of reality…

Specificities of the residency

One very interesting point in ATLAS is the use of all types of "realities", from fully analogic to fully digital, from basic reality to AR, to VR, from a seamless experience of the exhibition to an augmented view, to an occlusion in the dream-like world. This mix of reality is also witnessed in the process of making. Part of the making was pure coding, while the other part consisted of creating the buildings that where to populate the exhibition and the other layers of reality in workshops with

children in Molenbeek. The buildings were then digitized using photogrammetric techniques, in order to be used to populate the digital layer of the reality. By having the same buildings in all different experiences, the link created between realities is really strong. Going crescendo in the level of virtuality really helps understand how the realities merge.

Yann worked really hard on all the visual and interaction principles in AR. The technology was new to him, so he really immersed himself technically in order to reappropriate the tools. On the other side, Marie-Ghislaine spent a lot of time curating the creation of the raw material (the houses) by the kids in Molenbeek.

The co-creation process is a success from all points of view. There is a global feeling of benevolence and trust coming out of this residency. During the two phases of residence in Oxford Brookes, the team of the tech project really engaged in helping Yann achieving his goals, while trustfully letting him total control over the artistic part. Active discussions led to new ideas, workarounds, and challenges to address, both from the tech pushing the art and from the art pushing the tech. The final artwork actually overcome both side's hope, and everyone is stunned by the result of the collaboration.

Art-science expresses itself in the whole principle of enhancing the reality. Artists are, by nature, sensible to reality to an extent that they digest it to spit it out in the form of art. The reality of the artist is subjective, and he sees things that are not what we might understand by "the reality. Therefore, in an artist's mind, realities mix and merge already. So an artist's point of view on how to interact visually and physically with an extra layer on top of reality makes deep sense.

Innovation impact

The initial challenge of Wekit was mostly focused on the AR side of their product. As their motto is to use "reality as a medium", they are working to find out the best ways to add information on top of sight to enhance it. In that regard, they want to explore and find out aesthetical guidelines, UI principles from which real knowledge can be drawn in order to reinforce the user experience.

On their side, the artists were looking for top notch AR technology to give a new approach to their work, to explore new sides of their topic. Furthermore, they were looking for the technical knowledge and mentoring that would allow to seamlessly integrate this new medium in their universe.

Innovation happened at the meeting point. While providing technical guidance and mentoring on one side and exploring without any other boundaries than soft/hardware limits on the other side, the co-creation team reached measurable results and was able to output knowledge out of the work produced, in the field of AR aesthetic and interaction principles.

Public exposure

One very strong aspect of the residency is that it is highly showcasable and engaging, as it has been thought as an exhibition setup since the ideation. It is truly a STARTS success story, from the quality of the co-creation process, to the artwork, to how the challenges of each party have been addressed. Over the duration of the residency it has been exhibited in numerous places, such as:

- Eu@SXSW, Austin / Texas, 10.03.18-13-03.18
- Classes Urbaines – MCCS, Molenbeek / Belgium, 05.03.18-26.03.18
- Venice Architecture Biennale, Venice / Italy, 27.05.18

https://vertigo.starts.eu/article/detail/starts-residencies-biennale-di-venezia/

- Annual STARTS Residencies Event – CGP, Paris / France, 13.06.18

https://vertigo.starts.eu/article/detail/atlas-at-the-starts-residencies-day/

- BMW Innovation Day, Munchen / Germany, 21.06.18 (~250 persons)
- Ars Electronica, Linz / Austria, 06.09.18-09.09.18
- Knowledge Innovation Network – Warwick Business School, Warwick / UK, 12.09.18 (~30 persons)
- ATLAS Solo Exhibition – The Glass Tank @ Oxford Brookes University, Oxford / UK, 01.10.18-16.10.18

https://www.vertigo-starts-residencies.com/single-post/2018/10/25/ATLAS-solo-exhibition-in-The-Glass-Tank-Oxford-Brookes-University

- Augmented World Expo, Munchen / Germany, 18.10.18-19.10.18
- Kikk Market – KIKK, Namur / Belgium, 01.11.18-04.11.18
- A website was created for the project: http://atlas-experience.xyz/
- 4 articles were published on Oxford Brookes Website

3.1.2 BLUEPRINTS FOR AN EMERGENT PERSONALITY (Status: Running)

- Tech Project name: AMORE
- Artist: Theo (Kate Aspinall)
- Grant category: 1
- Date (Start-End) April 2018 – January 2019
- Residency location: Barcelona, Spain
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five keywords: cognition, drawings, computation, personality, language

Residency abstract

Kate Aspinall, aka Theo, is an artist, writer and academic. She has a PhD in the history and philosophy of drawing and practices "art in the headspace" and around large works on paper playing with drawn fragility and bodily alteration.

In her STARTS Residency, she is working with the AMORE, a H2020 project that seeks to build machines capable to connect language to reality — machine self-learning — and particularly interested in the interaction of language with conceptual knowledge, on the one hand, and the extralinguistic context, on the other.

Theo, in her side, is interested in the ways to conceive personality as an inevitable by-product of the linguistic learning process, and, thus, she is approaching the AMORE computational system as an infant consciousness developing its cognitive abilities – inferring the body (or the embodiment), which emerges from the way the model-as-a-mind displays idiosyncrasies akin to a personality. She aims to build an archive of sketches, documents and large presentation pieces that look to the actual and interpreted development of the computational system as a mind, exploring its "personality" and what a subjective world could mean for a machine.

As Theo says: "fundamentally, I am trying to think how I can use myself to sense, to visualize a lot of what is going on and, then, use this information with psychologists back in London to analyse what the potential world view of such a model is, making that an imaginative leap to treat this not as a machine or as a tool, but as a being that is creating itself from the information we give it so they can learn."

This is being undertaken by attending, initially, to the AMORE project's physical surroundings, from the micro to the macro — its program language, its technological/material encasement, the immediate environment of lab, the researchers, the building, and the extended environment of the city — and, secondly, to the logic of the system through its errors as it develops and is challenged through the learning process. Then, Theo translates the responses of the system into data points and emotive sketches visible and readable to humans (first stage), and presents these data to select child psychology and development specialists in order to build a picture of the personality behind them (second stage). Finally (third stage), Theo aims to construct images of a possible mature and

embodied self, based on the information gathered before – a series of large graphite and acrylic figure/ machine studies.

The expected result will be a creation of an archive of the model as a full being – including the sketchbook from stage 1, the reports from stage 2 and the pictures from stage 3.

Specificities of the residency

It is the first experience of Theo working with a Tech Project, as it is the first time AMORE researchers work with an Artist. AMORE is based in Barcelona and led by a consortium, and Theo is London based. In the words of Theo: "it has been a fascinating cultural exchange talking about language and AI".

At the beginning of the residency, Theo has spent a full week when she met AMORE team, discussed their research and worked on developing sketchbook by drawing/documenting images of people, places and things related the material surroundings of the AMORE model). After a period of remote cooperation, Theo has returned to the Tech Project for another full week of co-creation, where she spent more time with AMORE team (giving a seminar, meeting socially, drawing them, exchanging research, etc). During this period, Theo has begun to create images that visually symbolised the logics revealed in the incorrect answers generated during model run by postdoc AMORE researcher Kristina Gulordava, who is looking at reverse engineering infant language learning. The final stage of the residency foresees, a third full week of joint collaboration for finalising the co-creation process.

For Theo, this residency is, in one sense, a rare opportunity to work with a team as it programs and tests a learning system, and in another sense it represents a rare opportunity to explore the uses of art at an important and early moment in human understanding of artificial intelligence.

Innovation impact

The Blueprints project will create an archive of the early psychological development of a sophisticated computational system that can learn its own representations from data. The archive will constitute a sketchbook of the environment and world-view of the system during its early development. It will also produce a series of large presentation drawings that reflect more deeply on how we can represent non-human personality and how this representation can best combine objective analysis with subjective interpretation. This record will not only be of the AMORE model but also a snapshot of the early human stages of understanding and developing artificial intelligence

In addition to inverting artistic genres that have invoked robotics as tools or fantasies, the expected impact of the Blueprints project is twofold: on an immediate level it will engage with a greater societal interest in how the syntax of machines can represent and interact with personality. This will push beyond the cliché of anthropomorphism that has preoccupied our culture for the last decades by exploring how to translate a computational worldview into a fuller psychological landscape through the use of visual symbols and representations. On a greater methodological level, however, the project will propose a new mode for artistic and scientific collaboration at a moment in our

technological development where this integration is necessary if we are to fully understand the evolving implications of machine syntax as intelligence.

Public exposure

Theo presented the residency project, their progresses and the co-creation process, at the Centre Pompidou, June 15, 2018. The presentation can be viewed in the following link: https://youtu.be/G93wfOyUJyc

Besides the residency, artwork and exhibition, Theo is publishing articles in our STARTS Residencies blog (see for example the following post: https://www.vertigo-starts-residencies.com/single-post/2018/10/26/Blueprints-For-An-Emergent-Personality-The-Next-Phase-Begins).

A short video of this residency was shot in Spain and shared on the web. (the video can be viewed in the following link: https://youtu.be/ZMRo15aZ0RU).

A video was also showing the sketchbook completed: https://youtu.be/7_mbEMlwvxA

3.1.3 BY THE CODE OF SOIL (Status: Completed)

- Tech Project name: GROW
- Artist: Kasia Molga
- Producer: Future Everything
- Grant category: 2
- Date (Start-End): November 2017 – December 2018
- Residency location: Dundee, Scotland
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Keywords: soil, sensors, community, environment, monitoring

Residency abstract

Kasia Molga is a designer, artist, creative technologist and environmentalist in heart. She calls herself "design fusionist". She reimagines our relationship with nature, while questioning our technologically mediated perception of the environment—and the technology itself.

During her STARTS Residency she is working with the GROW Observatory. This H2020 project engages thousands of growers, scientists and others passionate about the land. Their objective is to discover together, using simple tools, how to better manage soil and grow food, while contributing to vital scientific environmental monitoring.

Kasia Molga working closely with Robin Rimbaud aka Scanner, a sound artist, aspires to help to create a meaningful data manifestation for growers themselves, to generate output for their observation and based on that she will create an audio/visual art piece which can represent soil and growers work to people who are not too close to the land. She wants to create an artwork where the quality of the video and audio will depend on the conditions of the soil around the area. If the soil is dry or depleted one might get really pixilated images and cracking sounds. However, if the quality of soil is really good and everything grows smoothly the images and sounds are going to be smooth and beautiful.

In order to do so she explores data from various points of view (those of scientists, those of growers and those of the audience from outside). She travels around Europe to meet the growers and scientists, collecting data, using their flower power sensors. In the meantime she studies various data sets – how they interact with each other and what story they can tell.

In the word of Kasia Molga: "We do not want our piece to be just a pretty thing on the screen or the white wall gallery space, but we really are looking to create something with the function—be it well provided information aside the intriguing visualization or sonification or giving a "visible" presence to individual growers and their efforts."

Specificities of the residency

GROW Observatory is led by a consortium. In order to get as much information as possible and to fully understand the project, Kasia Molga is taking part in the consortium remote meetings every two weeks. She also goes to the consortium meetings and participates in the internal workshops. It took her around six months to gather data from the different partners, meet them all and be fully operational. The strength of Kasia is that she fully understands the importance of this "information period". Only after this period she started working with data and thinking about the artwork.

As GROW Observatory is a collaborative project, Kasia Molga has a great role to play in order to involve the grower's community in the project. She understands this aspect of the residency, and travels around Europe to meet them, understand their concerns and present her project. For example, she went to Alexandroupolis, Greece to meet Pavlos Georgiadis and his team. We took the opportunity to shot a short film presenting the collaborative work of Kasia Molga and the GROW Observatory. One can discover it on Youtube (STARTS Residencies – By the code of soil).

Once the artwork will be created it will also play an important role in the community building and the dissemination of the research project as it will ease the understanding of the research for non-scientists.

Innovation impact

To analyze data, Kasia Molga developed a software piece to start looking at various parameters. This software presents data in more comprehensive ways thanks to graphs and schemes. Basically, it makes visualization by transforming the .json files which are available online into graphs.

While discussing with GROW scientists, she realized that this was also missing for the GROW interface. So, they decided to integrate the software she created in GROW's website. Thanks to this software, growers can more easily understand the meaning of data and the changes in soil monitored over time.

This software is an unintended outcome of the residency. The artwork developed by Kasia Molga and Robin Rimbaud will be another outcome. As explained above this is a really visual and easily understandable translation of the data collected by the GROW Observatory. This artwork could be used in several places to inform about the soil conditions but also by growers themselves.

Public exposure

Kasia Molga and Feimatta Conteh (part of the GROW Observatory and member of FutureEverything producer of "By the Code of Soil") presented the residency project, their progresses and the co-creation process, at the Centre Pompidou, June 15, 2018.

https://vertigo.starts.eu/article/detail/dirt-is-not-an-option-or-my-daily-struggles-with-the-hyper-object-starts-residencies-day/

At the end of the residency, the GROW Observatory would like to exhibit the final artwork to the consortium and public audience probably at the University of Dundee where the project is based.

FutureEverything is working actively on the dissemination of the project. Their new creative director, Irini Papadimitriou, is part of our Jury for STARTS Residencies and just left the V&A in London. Knowing that a V&A just opened in Dundee we can hope for a presentation there.

Apart from the exhibition of the residency and artwork, Kasia Molga is publishing articles in our STARTS Residencies blog as well as in GROW Observatory one.

https://www.vertigo-starts-residencies.com/single-post/2018/04/27/The-Question-of-the-Loneliness

As mentioned above, a short video of this residency was shot in Greece and shared on the web.

https://www.youtube.com/watch?v=tlRHjsKFXtk&list=PLEV4JNNrV8IdNCHICrXn7kwf_DBeaCNdy&index=46&t=0s

3.1.4 MAGIC LINING (Status Completed)

- Tech Project name**:** MAGIC SHOES
- Artist**:** Kristi Kuusk
- Producer**:** NA
- Grant category**:** 1
- Date (Start-End)**:** November 2017 - August 2018
- Residency location**:** Madrid, Spain; Tallinn, Estonia
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five Keywords: Wearable, emotion, sensors, garments, electronics

Residency abstract

Magic Lining Residency put together MAGICSHOES and Kristi Kuusk.

MAGICSHOES (http://magicshoes.es/) is a scientific project that explores how sound can alter the experience of one's own body and aims to test the feasibility and potential value of using wearable technology integrating sensory-feedback and body-tracking for improving body-representation (e.g. body size), motor behaviour (physical activity) and emotion (positive emotional states), and ultimately exercise adherence, in those physically inactive or with sedentary lifestyles.

Kristi Kuusk (http://www.kristikuusk.com/) is a designer-researcher interested in exploring new ways for textiles and fashion to be more sustainable through the implementation of technology.

Both — MAGICSHOES and Kristi — have, thus, found in this residency a good opportunity to establish synergies and deeply develop their interests. From the insights of MAGICSHOES project — based on shoes and sound —, Kristi proposed to open the project to all the body and work notions such us vibration and garment, aiming to draw the attention to the unused internal side of the garments and textile as a space to alter people's self-perception for more positive behaviour. Her ultimate goal would be, as she said, to contribute to a future where "instead of choosing clothes based on how they make us look, we could tap into the possibility of having clothes that are able to make us feel better — both physically and emotionally."

During Magic Lining Residency, Kristi and MAGICSHOES had the opportunity of coming together in a workshop in Tallinn, two residencies in Spain, and one in Tallinn. The residency resulted in the production of videos, photos, papers, and in a garment that allows the wearer's the feel as if their body would be made of a different material.

Specificities of the residency

A consortium leads MAGICSHOES. In order to get as much information as possible and to fully understand the project, Kristi Kuusk communicated a lot with the project team via e-mail and Skype calls. Besides the virtual connections, Kristi and MAGICSHOES had the opportunity to

physically meet each other in Tallinn and Spain: they started from blending the team's knowledge in a kick-off workshop —Magic! —; Then, got to know each other more in Kristi's *Textile Futures studio* in Tallinn. Next, they proceeded into the first two weeks residency at Universidad Carlos III de Madrid. Other part of the residency took part at the Tallinn University. And the project continued by another two weeks residency at Carlos III de Madrid. For Kristi, this close collaboration was very important; it allows her to develop a better understanding around science and scientists, what are their interests, how to collaborate with them, what she could offer to them.

Kristi, along with her knowledge in smart textile services, had some experience in working in co-creation and collaborative projects. However, this residency gave her the chance to improve her knowledge about perception, other working cultures and methodologies — for example, in this residency she learnt about that sensations can be measured and quantified.

Innovation impact

Magic Lining helped the MAGICSHOES team to look for new concepts and methods for inducing sensory and emotional experiences that can increase body awareness and/or alter the perception of one's body.

It explored ways how clothing could make the wearer feel physically and emotionally satisfied with his/her body and being. Furthermore, the project brings MAGICSHOES to a new aesthetic level, tackling the current notion of fashion and garment industry and asking how could the value of fashion and clothing shift from outside to inside.

The Magic Lining prototype introduced innovative wearable solutions for tracking body signals (movement, physiology) and delivering sound while people are on the move.

Magic Lining also sheds light on the social acceptability of the new concepts presented by allowing the immediate community and wider public to experience and comment on the developed piece.

The knowledge obtained will inspire meaningful smart textile applications.

Public exposure

Kristi Kuusk (along with Ana Tajadura-Jimenez and Aleksander Väljamäe from MAGICSHOES project) presented the project at the *World Usability Day* event, in Estonia, November 10, 2017. Further information can be consulted at the STARTS.Residencies blog: https://www.vertigo-starts-residencies.com/single-post/2017/12/15/Magic-Lining-at-World-Usability-Day-Tallinn. And a summary of Kristi's presentation can be consulted in the following link: https://vimeo.com/250106962/c3e8c656c5

On 21st of December 2017, Kristi gave a talk about her previous work and Magic Lining Residency for the DEI Interactive Systems Group and external visitors, at the Universidad Carlos III de Madrid, Spain. The talk was followed by a discussion and a pizza lunch.

Kristi Kuusk (along with Frédéric Bevilacqua from MAGICSHOES Team) presented the residency project, their progresses and the co-creation process, at the Centre Pompidou, June 15, 2018. The presentation can be viewed in the following link: https://youtu.be/r7gClFgdggI

Kristi Kuusk, Ana Tajadura-Jiménez and Aleksander Väljamäe (from MAGICSHOES Team) presented a paper — *Magic lining: an exploration of smart textiles altering people's self-perception* — at the 5th International Conference on Movement and Computing in (MOCO) Genoa, Italy, on 29 June 2018. The programme of the conference is available in the following link: http://moco18.movementcomputing.org/. They also published a paper in this Conference Proceedings (doi:10.1145/3212721.3212893), which may be consulted at: https://dl.acm.org/citation.cfm?id=3212893

Ana Tajadura-Jimenez (along with other researchers of MAGICSGOES) also presented some of the results of Magic Lining residency in the paper *Designing a gesture-sound wearable system to motivate physical activity by altering body perception*, at the 5th International Conference on Movement and Computing in (MOCO) Genoa, Italy, on 30 June 2018.

On September 12, 2018, Kristi Kuusk presented the project at the event *Textile Futures: design research meets the industry*, Estonia. A summary of the event can be consulted at the following link: https://www.artun.ee/en/kalender/seminar-textile-futures-design-research-meets-the-industry/

Besides the presentations at events, Kristi published several articles in our STARTS Residencies blog: https://www.vertigo-starts-residencies.com/blog-1/category/Kristi%20Kuusk

Kristi and other researchers of MAGICSHOES also shot various videos:

- video shot in Madrid, with Kristi Kuusk and Ana Tajadura-Jimenez presenting Magic Lining Residency: https://youtu.be/Kimb7_HbRX4

- video with Kristi Kuusk exhibiting the initial work process: https://vimeo.com/265780961

- video showing how vibration motors sewn onto a textile: https://vimeo.com/248456648

- Video with an overview of project's approach and process: https://vimeo.com/272190793

- Residency final video: https://vimeo.com/289294125

3.1.5 POLLUTION EXPLORERS (Status: Running)

- Tech Project name**:** HACKAIR
- Artist**:** Ling Tan
- Producer**:** Future Everything
- Grant category**:** 2
- Date (Start-End)**:** Oct. 2017 – Nov 2018
- Residency location**:** Thessaloniki, Greece
- STARTS contract partner: ArtShare
- STARTS monitoring partner: EPFL
- Five keywords: Air quality, community engagement, wearables, smart city, workshops

Residency abstract

Pollution Explorers is a collaboration between artist Ling Tan and hackAIR, an EU supported project that has built an open technology platform that can be used to access, collect and improve air quality information in Europe. Ling has been co-creating wearable devices to measure air quality through gestures and hackAIR's platform. She has done this by running several community engagement workshops, so far in the UK and Belgium, involving the public in her practice and the development of the project.

Specificities of the residency

This is a completely participatory project, co-created with the hackAIR community that involves a series of workshops around Europe to collect qualitative and quantitative data.

The collaboration between Ling Tan and the hackAIR project is a bit complicated. The Tech Project is quite reluctant to share data with Ling. The artist and the Tech Project are not often collaborating, nor physically working together. Ling Tan started organising workshops in the United Kingdom and asked hackAIR to organize one in Brussels with their network. It took a long time to organize the workshop but it was finally successful. They are planning to organize other workshops together before the end of the year.

This residency is a good illustration of the role of STARTS Residencies monitoring partner. It is really important to be close to the residency team and ready to intervene when needed. The collaboration between artists and Tech Projects are not always easy. It is part of the role of the monitoring partner to facilitate the collaboration.

Innovation impact

hackAIR has been interested in Ling's methods of using humans, and not sensors, as air quality monitors in a way that they had not thought of before. So far this has opened their perspectives, but as the residency is not yet complete, it is yet to be implemented into deliverables, although they have posted about the residency on their blog (link below). Ling will gain some important insights into human perception of air quality as opposed to conventional sensors. She has done this using communities provided by hackAIR as well as the hackAIR platform. Her work will also suggest solutions about how people can work together to make improvements in air quality that are really noticeable by the public.

Public exposure

Blog post by hackAIR http://www.hackair.eu/pollution-explorers-wearable-technology-to-map-subjective-perception-of-air-quality/

Video presentation https://vimeo.com/277908410

Article on Shift Digital http://www.shift-digital.co.uk/?event=pollution-explorers

3.1.6 REACTIVE MATTER (Status: Running)

- Tech Project name**:** PROGRAMMABLE MATTER
- Artist(s)**:** Gregory Lasserre & Anaïs Met Den Ancxt
- Grant category: 1
- Date (Start-End): January 2018 – January 2020
- Residency location**:** Montbéliard, France
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five Keywords: Interactive matter, micro-robots, sculpture, network, sensory installations

Residency abstract

Grégory Lasserre & Anaïs Met Den Ancxt are media artists and together form the Scenocosme (http://www.scenocosme.com/), a group interested in contemporary artworks and that explores possible hybridizations between the technology and the living world (plants, stones, water, wood, humans,..) in order to produce innovative sensitive and poetic sonorous and/or visual languages.

In "Reactive Matter", they work with "Programmable Matter", a research project that aims to create a new smart system made from a hardware component and a software approach that will enable the creation of basic blocks of programmable matter — a matter made from centimetre-size modules attached together and able to move. In other words, the project is interested in a programmable matter capable of changing its physical properties according to an internal or an external action, and it will do this by working with a programmable matter composed of micro-robots, sub-millimetre moving computers that will have the ability to move around each other, communicate, change colour, and latch to other micro-robots to form different shapes.

Scenocosme aims to approach "Programmable Matter" as a good opportunity to develop new interactive artworks which explore the quality of real and virtual touch, and its various significances. They propose to work links between natural elements and objects with virtual sounds, lights or images. Several questions will light up the development of their work in "Reactive Matter": what kind of poetic and symbolic relationships the electronic clay can create? How it is possible to build, to sculpt an intuitive and evolutive musical score with blocks? Where each "molecule" could be used in a score model? How is it possible to link several objects together? To create a singular network? To gather several spectators in a performance?

At the end of the residency, Scenocosme expect to present an interactive sculpture installation — made of Blinky Blocks — with organic behaviours (sonorous and visual feedback).

Specificities of the residency

Scenocosme has large experience in working with technology and they have already worked on co-creation with scientists before. Grégory Lasserre is graduated in Computer Science and in Electronics, and has a Masters degree in Multimedia, which has proved to be valuable to facilitate the communication with the Tech project team.

Innovation impact

Scenocosme wants to approach the notions of rhizome and develop specific cellular structures like interactive roots able to transmit information, light and sound such as nutrients or stimuli. The bricks of the work are also like voxels in a real physical space. They can be assembled like cells and have the ability to function in interdependence but they can communicate with each other. Scenocosme also want to add transplant to the cellular robots and inject them different behaviours.

When Scenocosme concepts its artworks, the technology is hidden, it disappears in order to enhance sensory relations with various elements. Scenocosme is interested to explore possibilities of hybridizations between this programmable matter and other elements in order to extend possibilities and textures of this material, to discover several qualities of artificial and sensitive skins, to understand how visual and sonorous virtual matters can evolve according to proximity and the depth of the touch with real elements.

Besides this, one of the main objectives of Scenocosme is to create the biggest modular robot in the world — a sculpture made of Blinky Blocks. In their opinion, this sculpture will be not only an artistic object, but also a technical breakthrough.

Public exposure

On 7 November 2017, Anaïs met den Ancxt presented the residency project at the event *Technology and Emotions: conference for co-creation*. A brief description of the event can be consulted at the Vertigo.Starts website: https://vertigo.starts.eu/agenda/technology-and-emotions/detail/

Grégory Lasserre (along with Julien Bourgeois from "Programmable Matter" Team) presented the residency project, their progresses and the co-creation process, at the Centre Pompidou, 15 June 2018. The presentation can be viewed in the following link: https://www.youtube.com/watch?v=Z-7po5O5PK8

On 21 September 2018, Grégory Lasserre presented the residency project and the co-creation process, during the *STARTS Pro Day*, at the *Scopitone Festival*. A brief description of the event and its programme can be consulted at the Vertigo.Starts website: https://vertigo.starts.eu/agenda/starts-pro-day-scopitone/detail/

Besides the presentations at events, Scenocosme will publish some articles about the progress of their residency at our STARTS Residencies blog.

3.1.7 SMART>SOS (Status: Running)

- Tech Project name: BIO4COMP
- Artist: Tim Otto Roth
- Grant category: 2
- Date (Start-End): September 2017 – April 2018
- Residency location: Lund, Sweden & Dresden, Germany
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Bio-computation, microbiology, protein, mechanism, sonification

Residency abstract

The artist Tim Otto Roth developed together with Bio4Comp researchers from Dresden, Chemnitz (both Germany), Lund and Kalmar (both Sweden) a sound and video installation revealing the new paradigm of bio computation: a sub-sub-microbiological machinery based on tube like protein polymers, the so-called microtubules.

Bio4Comp developed a sophisticated mechanism to create a bio computer: it uses tube like molecules moving in a special labyrinth like nano structure edged in silicon dioxide. Essentially this network structure is designed to solve a so-called subset problem. Bio4Comp's solution of this NP complete mathematical problem can be compared to a kind of marble run with agents passing a pyramid like structure of joints.

Although the marble balls turn randomly left or right at the split joints, the distribution of the balls at the outputs represent a certain pattern due to the geometry of the network of split and cross joints.

Specificities of the residency

Tim Otto Roth and Till Korten have been working together during 10 months. Tim visited the Bio4Comp research groups several times in Dresden, Chemnitz, Lund and Kalmar.

The kick-off for *SMART>SOS* was the Bio4Comp workshop in mid-September 2017 in Dresden, presenting the project to the entire consortium. The particular work started thereafter in the Diez Lab at TU Dresden together with Till Korten: Till and Tim tested the ring-like network topology with 15 interconnected units in extended Matlab simulations, which helped to optimize the fluidic structure and to test new supplements. 30 "detector" zones were added to measure the transit of agents. These detectors help to analyze the behavior and are later important for the sonification.

At the end of October, the design was finally realized as nano structures in silicon. In the cleanroom the whole processing chain was executed by the artist: Coating the silicon waver, exposing it to the

electron beam and developing it after. Finally, wavers were dry edged resulting in nano-structures with channels of a maximum width of just 1 micrometre edged into silicon dioxide.

Immediately after the structures were tested in Dresden. Till Korten developed a sophisticated procedure to treat the structures biochemically. Finally, the first images in the fluorescence microscope revealed that the structures not only work, but the agents even revealed a less biased behavior than predicted in the simulations. In total, 10 different nano-structures scaled to three different sizes were examined. Beside the big ring like topology also a trio of three interacting substructures was created. The records of the microscope image series are the basis for further analysis. Finally, this footage feeds the video and sound installation.

Innovation impact

Thanks to this residency project and the artwork, the team revealed the new paradigm of bio computation, explained above. Now that the residency is over, the artist and the researcher are exploring new directions of research inspired by the residency. They are exploring possibilities to build biological transistors.

Public exposure

The artwork was premiered at IRCAM during the STARTS Residency Day, from June 13 to June 16. During this event Till Korten and Tim Otto Roth presented orally their residency project and the co-creation process. This presentation was streamed live, and is now available on STARTS YouTube channel.

https://www.youtube.com/watch?v=1zZOwM5-BEU&list=PLEV4JNNrV8IdNCHICrXn7kwf_DBeaCNdy&index=37&t=0s

The artwork was then exhibited in Fraunhofer Chemnitz, October 17.

3.1.8 THE IDEAL SHOWROOM OF IOT (Status: Running)

- Tech Project name**:** CREATE-IOT
- Artist So Kanno
- Producer**:** Retune Creative Technology GmbH
- Grant category**:** 1
- Date (Start-End)**:** Octobre 2017 – January 2019
- Residency location**:** Trondheim, Norway
- STARTS contract partner: ArtShare
- STARTS monitoring partner: ArtShare
- Five keywords: IoT, artificial intelligence, 3D technology, virtual reality

Residency abstract

So Kanno is using technology and focusing on some specific matters of technology such as relation between signal and noise, error and glitch. Making things to have new perspective. He is known for his drawing machine represented by graffiti robot, exhibited drawing machines at SeMA Biennale Mediacity Seoul 2012, the Sapporo International Art Festival 2014 and elsewhere.

In the beginning, So Kanno proposed to present "The ideal showroom of IoT", a two-part composition, a participatory installation with a capacity of one person. The room was made with state-of-the-art technology, and the system tried to capture information from participant as much as possible. But after presenting the installation in Bilbao, during IoT Week (june 2018), So realized that the VR set was kind of "intimidating" for people. The artist decided then to change the scoop of the residency and create "The Chatroom of Things".

The setup is a normal living room. Most of objects have twitter account and tweets something they perceived. A big television is showing the tweets from objects. They also talk to each other via twitter. The artist wants to make them behave or think like humans. He wants to make them have different kind of conversations which are practical, critical, nonsense, romantic.

Every once in a while, they start theatre play. Their script will be shown in display as tweet. When the theatre mode is on, the moving head does some stage effects, like spotlight, or moody colours.

Specificities of the residency

Create-IoT is a big consortium composed of many labs, companies and institutions. It was at first complicated for So Kanno to find one engineer to work with. With the IoT week he finally got the chance to meet members of the consortium and discuss more deeply about the residency project. Thanks to this event, the residency had a new start. The residency end date was delayed in order to have more time to work with the consortium and develop "The Chatroom of Things".

This project is now a really promising residency that will be exhibited at ICT Vienna in December 2018.

Innovation Impact

Usually humans have a twitter account, but "bot" exists. If an object has a twitter account, in the time-line, there's no difference between human and things. There is a computer which has a twitter account for the installation and showing all this conversation of things/objects. From this account on the computer, visitor can talk to things as well. Additionally, visitor can also follow the objects in twitter, can talk to them.

If a visitor follows the account of installation (not the objects), automatically this account follows back, and your tweet will be displayed with tweet from things. In the current system, it's not happening yet. But probably possible in the future with Mastodon.

Public exposure

IoT Week, Bilbao, from June 4th to 7th 2018
ICT 2018, Vienna, from December 4th to 6th 2018

3.1.9 THE PLANT SENSE (Status: Completed)

- Tech Project Name: FLORA ROBOTICA
- Artist(s): María Castellanos & Alberto Valderde
- Producer: Laboral
- Grant category: 1
- Call: 1
- Date (Start-End): September 2017 – June 2018
- Residency location: Lübeck, Danemark
- STARTS contract partner: ArtShare
- STARTS monitoring partner: ArtShare
- Five keywords: plants, devices, sensor, garden, biochemical

Residency abstract

María Castellanos has a degree and a PhD in Fine Arts from the University of Vigo, Spain. Alberto Valverde is an artist and a technologist with a background in mathematics, with a solid experience in system design, interactive environments, robotics and programming. They started to work together in 2009 under the name of uh513. Since then, they have been working in a variety of projects, focus in the relationships between humans and machines and creating technological interfaces to enhance human capabilities using technology.

During this residency, the artists worked with the Flora Robotica project. They are developing braiding robots, robotic nodes, and intelligent filaments. Braided structures are a key element in the project; they serve as scaffolds for natural plants. The braiding robots are small and modular robots that are able to automatically braid sophisticated structures, such as tree-like scaffolds. They are controlled by bio-inspired algorithms that determine where to branch and grow. The robotic nodes are small and static robots that interact with plants by light and sensors. They are able to attract and repel plants to grow desired shapes. The intelligent filaments are equipped with actuators and sensors and can be woven into the braids to create a distributed sensor array and distributed computer.

During the residency the team developed the Plants Sense: an installation that allows the audience, to know and experience the secret language of plants. It is a transdisciplinary work, which connects art, science, technology and society.

The work consists of an interactive garden in which different sensors measure the electrical oscillations of the connected plants, and show their biochemical reactions to the human presence and the environment that surrounds them. All this information is processed and translated into vibrations and low frequency sounds that allow the visitor to perceive the plants through a wearable. Likewise, different interfaces in the garden provide the public to experiment and feel in their own hands the registered reactions of the plants, through different electronic devices.

Specificities of the residency

The artists faced multiple challenges in robotics, biology, and architecture. To control the growth of natural plants, they had to create the right light conditions that balance the plant's needs to stay healthy and allow their robotic nodes to use their LEDs to steer the plant growth. Their robots needed to sense the presence and the growth of plants, which was a challenge for sensor development. Their experiments were combined robot and plant experiments, which means they had to comply with two different experiment protocols at the same time. For architecture it was a challenge to accept the building process as a continuous process over long periods of time where they did not distinguish between a design and construction phase.

At the end, the installation allows the public to experience the secret language of the plants through an intelligent interface-suit that receives their sensations while they are located in a small garden.

Innovation Impact

Working together the artists and engineers from Flora Robotica, made possible the communication between humans and plants, thus reaching the understanding of the vegetal language, unattainable without the help of the robotic systems developed by the artist. This device translates and transmits precisely those signals that humans, due to limited perceptual system, cannot receive in other way.

Public exposure

María Castellanos, Alberto Valverde and Phil Ayres were at the Centre Pompidou during the STARTS Residencies Day, June 15 to talk about their residency project and their collaboration. You can discover the video here:

https://www.youtube.com/watch?v=NMHH0F1qf7A&list=PLEV4JNNrV8IdNCHICrXn7kwf_DBeaCNdy&index=33

LABoral (Gijon - Spain) from 12th July until September 22, 2018
ICT 2018, Vienna, from 4th December until 6th December 2018

http://www.laboralcentrodearte.org/es/exposiciones/the-plants-sense

3.1.10 WIND AVATAR (Status: Running)

- Tech Project Name: DANCE
- Artist: Haseeb Ahmed
- Grant category: 1
- Date (Start-End): Sept 2017 - December 2018
- Residency location: Brussels, Belgium & Maastricht, Netherlands
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Brain, emotion, expressions, motion capture, myth

Residency abstract

Haseeb Ahmed is a research-based artist. Often working collaboratively, he integrates methodologies from the hard sciences into his art production.

Working with the Brain and Emotion Lab, the project "Wind Avatar" directly links a person to the wind. Body movements express emotion in subtle and highly coded ways. The practices of dance stabilize the expression of emotion into patterns of movement. The Wind Avatar creates a direct relationship between these patterns of expressive body movement in dance and turbulence patterns in the wind and allows a person to literally inhabit the wind and its freedom.

This project brings together three years of existing research in fluid dynamics by the artist with Dance's systems to create an original fusing of disciplinary knowledge. A wind tunnel system developed by the artist with engineers from the von Karman Institute for fluid dynamics creates the face of the wind and allows for the control of its expressions. Like the Dance project, the Wind Avatar is particularly interested in working with people who are physically impaired or congenitally blind. This project can offer a tactile sensory experience of visual phenomenon by employing the full-body sensation of wind blowing on a person's skin.

Specificities of the residency

Professor Beatrice de Gelder, leading the Brain and Emotion Laboratory at Maastricht University, and Haseeb Ahmed are gathering expression, dance, emotion and wind in the same art and research project. They are reflecting on emotions and how wind can represent them.

The von Karmen Institute for fluid dynamics helped the artist developing the wind tunnel system. The artist had already worked with this institute to create the Wind Egg Trilogy, a concept linked to the subject of the Wind Avatar Residency.

Innovation impact

This is the first time such a reflexion is led between the wind and emotions. The wind tunnel, allowing audience to discover the face of the wind is one of the results of this research and a good way to disseminate its results. This research could have a high impact on congenitally blind people by offering a tactile sensory experience of visual phenomenon.

Public exposure

Haseeb Ahmed participated in several talks and exhibition mixing the results from Wind Egg Trilogy and Wind Avatar.

October, 2018 Solo exhibition at Antwerp Museum of Modern Art (MuHKA) as part of InSitu program, Curated by Nav Haq

April 3, 2018 Artist Talk with Prof. Florian Dombois "The Wind Tunnel Model" Keller Gallery, MIT

March 6-28, 2018 For the exhibition "In our Present Condition," the film "The Wind Egg" was on view at the Keller Gallery. Monday-Saturday, 9 AM - 6 PM.

February 15, 2018 Artists' talk presenting "Vortex-Faced Being" at Inaugural Hash Awards, Zentrum for Medien Kunst (ZKM) organized by Academie Schloss Solitude, Karlsruhe, Germany

3.2 RESIDENCIES FROM CALL 2

3.2.1 ATOM CHASM (Status: Running)

- Tech Project name: ArtAtom
- Artist(s): Evelina Domnitch & Dmitry Gelfand
- Grant category: 2
- Date (Start-End): November 2018 - March 2020
- Residency location: Delft, Amsterdam, Stuttgart
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Atom, quantum, physics, chemistry, laser

Residency abstract

Dmitry Gelfand and Evelina Domnitch create sensory immersion environments that merge physics, chemistry and computer science with uncanny philosophical practices. Having dismissed the use of recording and fixative media, the duo's installations and performances comprise ever-transforming phenomena offered for observation. For this residency, they are working with ArtAtom, a project led by the 5th Institute of Physics of Stuttgart University.

The challenge of this residency is to realize a free ranging means for observing trapped ions that is safe for audiences, yet does not undermine the ambience of the ions' delicate light. To meet this challenge the artists are provided with lasers, optics, opto-mechanics, electronics, detectors, guiding systems, and laser security. Together with the lab they are developing a laser-cooled ultra-high vacuum ion trap, coupled with a free ranging optical system.

The team is willing to build the first artwork to ever be presented on the atomic scale.

Specificities of the residency

The artists and the research coordinator already knew each other before the STARTS Residency. They wanted to collaborate for more than 3 years, and STARTS gave them this opportunity. The research coordinator is particularly interested in this project, he has thought about this ion trap for more than 10 years. Back to 2008 it was impossible to think about such a project, and artwork. As a result, both parts of the team are really grateful for this residency, and willing to use this time and money as wisely as possible.

The 5th Institute of Physics of Stuttgart University really is into disseminating the results of the research to a large audience, facilitating the understanding for non-scientists. He thinks the artists are the good persons to do so (and many other things).

Innovation impact

As written before the team wants to build the first artwork to ever be presented on the atomic scale. This will be really innovative at an artistic point of view. But this artistic innovation will only be the result of the atomic innovation. Everything is to be done, as the residency just started. Yet, both parts are particularly involved in the residency and aware of the complexity of this project.

Public exposure

The artists would like to find a place to exhibit the final artwork permanently. As the artwork will require specific exhibition conditions, and particular caution, they would like not to move it too many times. They are thinking about a museum that could host the artwork, but have not found it yet.
Yet, before finding the final destination for the artwork, they would like to exhibit it at the 5th Institute of Physics, and other scientific places.

3.2.2 BEYOND ABSOLUTE (Status: Not Started Yet)

- Tech Project name**:** LUCA
- Artist**:** Reiko Yamada
- Grant category**:** 2
- Date (Start-End)**:** May 2019 – Jan. 2020
- Residency location**:** Barcelona, Spain
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Acousmatic soundscapes, diagnostic device, laser projections, health, medicine

Residency abstract

Reiko Yamada, a composer and sound artist and with the LUCA Project, composes the residency team. LUCA is about the interaction of light with tissues. The Tech Project developed a thyroid cancer diagnostic device.

The project Beyond Absolute has two components. The first is the creation of personalized acousmatic soundscapes based on the data generated by the LUCA diagnostic device in conjunction with sonic alterations that represent the subjective mindset of the patients. These acousmatic soundscapes would be as portable and non-site-specific as the LUCA device itself. The second component of the project would consist in an interactive audio-visual installation that presents such soundscapes together with visible laser projections whose patterns would be partly determined by the movements of the audience members through installation space, and partly by the behavior of light in the LUCA device.

The goal of this project is to use art to elicit in medical professionals and their patients a greater awareness of the interplay between physiological and psychological aspects of thyroid-related diseases while at the same time raising public awareness of the photonic and ultrasonic technologies used in the LUCA diagnostic device.

Specificities of the residency

The residency has not started yet, it is for now impossible to state its specificities.

Innovation impact

The symptoms of thyroid cancer and, more generally, thyroid-related diseases vary quite a lot from patient to patient and from moment to moment. In addition, they affect patients at a multiplicity of levels, ranging from the most readily observable physiological condition (e.g. body temperature) to

the subtle phycological effects. It is difficult, if not impossible, for communication between clinicians and patients to consider the entirety of the experience, physical and psychic. While the development of devices such as LUCA shows extraordinary promise in the accuracy of diagnostic it makes possible, and while such a technology is bound to bring about an admirable improvement in the quality of life of those patients who will be able to avoid invasive procedures, the enthusiasm that such promises legitimately generates risks obscuring the fact that the difficulties in communication described above are likely to continue.

Public exposure

This will be defined once the residency will have started.

3.2.3 COMPOSING MUSIC (Status: Not Started Yet)

- Residency Name**:** COMPOSING MUSIC AND SOUND WITH BIO-INSPIRED TECHNIQUES OF ARTIFICIAL INTELLIGENCE
- Tech Project Name**:** AIO
- Artist**:** Alberto Carretero
- Grant category : 1
- Date (Start-End)**:** to be defined
- STARTS contract partner: ArtShare
- STARTS monitoring partner: ArtShare
- Five keywords: music, AI, composing, instruments, electronics

Residency Abstract

Alberto Carretero studied Composition and Piano at the Higher Music Conservatory of Seville with Extraordinary Award. He holds the degrees of Computer Science Engineer, Musicology, Journalism, Master and PhD in Music Composition. He has received prizes such as INJUVE Composition Award, Cajamadrid Award, "G.Abril" Orchestra Award, Real Maestranza Award, etc. His music has been presented at IRCAM, Darmstadt, SWR-ExperimentalStudio, Carnegie Hall (New York), Centre Pompidou (Paris), San Fedele (Milan), National Music Auditorium (Madrid), etc.

The AIO Project uses advanced Natural Language Analysis, Deep Learning and Artificial Intelligence technologies and functionalities to extract structured information and knowledge from a variety of sources like articles, websites, social media, images, books, online discussions and more. This is done in multiple languages (currently 29), and on large amounts of data and content, obtaining big data which needs to be analyzed in order to extract meaning from it, in ways which are useful for policy making.
Alberto Carretero proposes a new project of music composition using deeply the AIO technology. He is interested in the compositional, technical and expressive tools of this technology to develop the concepts of bio-inspired techniques of Artificial Intelligence in music for acoustic, electroacoustic instruments ant the involved performers. The idea is to create a new piece for instruments, electronics and visuals involving a research on the concepts of Artificial Intelligence applied to the Music, that is, exploring all the parameters of this discipline and relate them to the compositional variables such as the movement, velocities, sound gestures, articulation of form and so on. He would like to explore the possible relationships with this technology and other research fields such as bio-inspired music composition, and continue the work the spatialization systems that surround the audience. Alberto has already worked in other projects with some of those systems. The format could be a \"concert piece\" or even a complete show, performance, installation or other flexible musical formats.

As the residencies has not started yet, it is complicated to state on its specificities and exhibition plans. They will be defined once the inception meeting will be over.

3.2.4 DATA UNION FORK: TOOLS FOR DATA STRIKE (Status: Running)

- Tech Project Name: DECODE
- Artist: Larisa Blazic
- Producer(s): Waag Society
- Grant category: 2
- Date (Start-End): Sept 2018 - January 2020
- Residency location: Amsterdam, Netherlands
- STARTS contract partner: IRCAM
- STARTS monitoring partner: EPFL
- Five keywords: Blockchain, Data, Privacy, Politics, Education

Residency abstract

The residency is a collaboration between the artist Larisa Blazic and the DECODE European research project. While Larisa's current work focuses on the politics of technology and, more recently, on data privacy in the digital age and all the political, societal and individual underlying questions, DECODE's goal is to raise awareness on how technology might either empower them on, or abstract them from the control they have on their data.

Their collaboration, facilitated by Waag, falls under the name of "Data Union Fork" and aims to provide citizens with tools and methods – amongst which Blockchain and there Smart Contract concept – to develop a collective, creative, and democratic response to the social, economic, and cultural implications of mass scale data harvesting and to fully leverage the value of that data in the interests of democracy, equality, and justice. This will be done through a cycle of discussions involving citizens, activists, legislators, technologists and artists.

Specificities of the residency

The residency is deeply rooted in societal, citizen and political concerns and questions some of their core principles. Therefore, the residency targets directly the major actors the awareness of whom has to be raised on those issues: citizens.

The residency engages a targeted community in an educational process, through active and ongoing co-creation and discussion in various contexts (panels, workshops, etc).

Finally, the goal is double: to provide the citizens with empowering, small scale protective tools – namely and foremost, through the concept of "smart contracts" embodied in the Blockchain technology - and to generate knowledge on the global topic out of the discussions with the community and thinkers, designers, activists, etc during events.

The goal for the artist is to open the dialogue with the citizens in order to generate enough relevant knowledge around the topic to design a tool that is meaningful, tailored to the real needs, on the basis of the technology and the knowledge developed by DECODE.

This approach puts the human individual, as a citizen, in the very centre of the whole process. As the co-creation process involves Larisa, DECODE, experts, but first and foremost him, he's at the same time the co-thinker, co-designer and the end user, and his involvement will hopefully be reflected in the tools.

Innovation impact

Larisa wants to open a debate on techno-rooted social and political issues, and use the tech developed by the project to create relevant tools to the citizens through a co-design process.

DECODE is very tech-oriented, but addresses crucial philosophical concepts, and there's a huge benefit of having an artistic eye on those. Plus, the research project obviously knows that the involvement of a community in the discussion and reflection process will generate knowledge and give some real-world feedback to the topics they're addressing and the tech they're working on, while also sparkle the debate in the public space.

Dissemination is in the very core of the project since it implies the involvement of a community and has the goal to ignite the debate at a larger scale, and raising awareness of the citizens to want to make them act. The residency aims at social and political impact in its very nature, through a discussion on technology to empower the user with meaningful tools, which is innovation by definition.

Public exposure

Aside from a final publication compiling the generated knowledge, the residency itself is largely thought as a calendar of event involving the targeted community in Amsterdam, part of the goal of which is also to draw media attention. The final calendar of events has not been released yet.

At the moment, the Residency is organizing 2-3 events at Waag Society in the first part of 2019: February, April and June are in the sights as possible months when workshops aimed at testing and examining work in progress can happen. The exact dates will be confirmed on 14th December at a planned online meeting between Larisa Blazic and Waag Society/Decode representatives.

The Twitter and Instagram channels of Larisa, Waag and Decode will be used.

Larisa will also post on her own blog: http://superoperaterbarbarogenius.v-ac-uum.xyz/

Waag Society will also create a dedicated blog for the residency.

3.2.5 EMBRYONIC (Status: Running)

- Tech Project Name: 3DPRIME
- Artist: Valeria Abendroth
- Grant category: 1
- Date (Start-End): November 2018 – July 2019
- Residency location: Heidelberg, Germany
- STARTS contract partner: ArtShare
- STARTS monitoring partner: ArtShare
- Five keywords: 3D printing, organs, health, biomorphic, sculptures

Residency abstract

Valeria emigrated from Russia to Germany in the´90s. Finished school degree and job training as a dental technician. After working 5 years full time as a dental technician she quitted the job and went to study fine arts. The experience as a dental technician gave her a special perspective on the processing and use of materials in the art context. Her art with sculptures, installations and video art is reflected in themes about human being, traditions and modernity, and have a social and societal meaning.

3DPRIME is developing a new 3D-printing system capable of creating the most sophisticated and realistic human organ models to date. It will allow physicians a realistic and accurate view of the human body, focusing on subtleties such as tissue hardness and fine-structures. During the residency the team would like to create a three-dimensional, interactive room installation that represents a developmental laboratory, including biomorphic sculptures that seem to be alive and growing. These sculptures are being developed in cooperation with the development team of 3D Technique and the artist. The sculptures have a very haptic surface structure, shape and colors that automatically attract them to see closer, touch and feel. Visitors can move like in another dimension, surrounded by unknown shapes and objects that create a special atmosphere. The project aims to create a sophisticated installation that will capture all the senses and open the door between the digital world and the real world through the collaboration of technology and art. These connections in the installation create a whole new organism, just as 3D technology makes it possible to create things that did not exist before.

Specificities of the residency

During the inception meeting some challenges were expressed. The new printer-head is still under development so the team might need to print models on other commercially available printers' off-premises, or even the final piece(s). The gradients of hardness given by the software are not available on other 3D modelling software. So, they will have to work around that.

Nevertheless, the artist will have access to all components already developed and additional modelling tools to create a unique experience that will materialize in front of the audience.

The easy interaction between the virtual, physical object and the user itself are challenges that often inspire futuristic concepts that culminate with a public presentation of an interactive artwork.

Innovation impact

We can't talk about innovation yet, as the residency just started. But the team is having expectations regarding the impacts of the residency. From the Tech Project (3D Prime), Vitor Pereira explains his expectations: «I expect a good collaboration environment, new ideas to come up through the existing development and possible future developments in different directions. I would expect a little bit of projection about the company, publicity if you could say, and recognition for the work that we are doing»

From the artistic point of view, «I expect that people will be interested and engaged, be curious and have a better acceptance of this kind of technology in general».

The contribution of the artist to the research, would be a better understanding of the usability of the aspects of the technology, both in terms of process of 3D printing but also creating the organs models. « That's where we expect a feedback, that we will then incorporate into the developments. We also expect from the artwork itself a bit more engagement and understanding on how people will engage with this piece. And perhaps what can we do to have more realistic models », Vitor explains.
From the artist perspective, « I always wanted to work with scientists and engineers and into medical atmosphere. Working together with different fields. This is my motivation. And create a new way of art, mixed with different fields. Not only art, but also technology and medicine ».

Public exposure

This will be defined during the residency process.

3.2.6 FROTH OF THE DAYDREAM (Status: Running)

- Tech Project name: LE CUBE
- Artist : Julie Desmet Weaver
- Grant category : 1
- Date (Start-End): July 2018 – July 2019
- Residency location: Marseille, France
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Immersion, poetry, performing art, interaction, emotion

Residency abstract

The stage director Julie Desmet Weaver leads this residency project. She is working with Black Euphoria (Marseille), an audio-visual company that has developed the immersive structure Le Cube.

In the project Froth of the Daydream, Julie Desmet Weaver is staging the novel by Boris Vian. The first part of the project is the performance of this play by 5 actors (not in the scope of the residency). The second part is the creation of a few scenarios to be played in Le Cube. The idea is to shot down short films that are going to be projected in Le Cube. As this immersive experience is interactive, the reactions, gestures, movements, of the audience in Le Cube will influence the story. During the residency, Julie Desmet Weaver and Blach Euphoria are working on the scenarios presented in Le Cube and how the audience can interact with the structure.

Julie Desmet Weaver would like to invite the viewer to dive into the heart of a virtual and sound reverie. By its paraphysical dimension, the novel by Boris Vian proposes an absurd universe mixing real and fiction. This surrealist universe makes it possible to place the viewer in a context where space and time are malleable, changeable and adaptable. The novel here becomes an anchor for imagining a digital writing centered on the transformation of the world in real-time.

The spectator is invited to enter the skin of Colin, the main character of Froth of the Daydream. The Cube, becomes an imaginative fantasy where our perceptions, our intuition, our sagacity to raise the anomaly, to analyze it and interpret it in the light of our own feelings are essential.

Specificities of the residency

Julie Desmet Weaver has been thinking about this project for a long time now. She has been looking for partners for more than two years. She participated in workshops to learn how to code, and use some interactive technologies. This is how she started thinking about working with the audio-visual world. She really trained herself to understand how to work with coders and tech researchers because she found it hard to communicate with them as their time management is really different.

Thanks to this motivation and learnings, she is now able to think about possible interaction between the audience and the structure. The good relation between Black Euphoria's team and Julie Desmet Weaver allow them to freely discuss about what can be feasible, how to develop the scenarios.

The residency started end of July 2018. Julie Desmet and Le Cube met in Marseille and discussed about the residency project, the different scenarios they could work on in Le Cube and how they could link the performing part to the virtual one. In October, Julie Desmet and her team spent one week at the "Studio de Bry-sur-Marne" to film the audio-visual scenarios. Thanks to the images they have, they are now able to work on the interactive part with Black Euphoria. Together they are working on how to use these images in Le Cube, how to develop the technology in order to create an interactive environment linked to Boris Vian's universe and how to create the reverie Julie is dreaming of.

Innovation impact

This hybrid project is innovative, as an interaction with screens and characters become possible. This is the beginning of the residency, so we cannot know for now, what interactions are going to be feasible.

Public exposure

The performing part of the project already has a presentation program. It will be premiered at Mont de Marsan in March 2019, will be played at the Festival d'Avignon in July 2019 and in several festivals in Romania, summer 2019.

The immersive part presented in Le Cube will be premiered at Festival d'Avignon. The team is thinking of a VR Glasses format that could be presented in booth and fairs, in order not to move Le Cube for a few hours of presentation only.

The residency team would love to present most of the time, the performing part and the immersive audio-visual part at the same venues. So that the audience could have a complete experience.

Boris Vian's centennial will occur March 2020. Julie would like for this date to have a place of honour in the Paris program.

3.2.7 IMMERSIVE MINIMALIM (Status: Running)

- Tech Project name**:** IMMERSIFY
- Artist**:** Theresa Schubert
- Grant category**:** 1
- Date (Start-End)**:** November 2018 – June 2019
- Residency location**:** Polzan, Poland
- STARTS contract partner: ArtShare
- STARTS monitoring partner: ArtShare
- Five keywords: immersion, environment, digital graphics, VR, animation

Residency abstract

Theresa Schubert is an artist who finished a Ph.D. in Media Arts from the Bauhaus University Weimar. A key element in her artistic practice is the experiment, whereas she exceeds traditional boundaries of the visual arts by including new technologies and life sciences. This manifests in various media, from video, photography and performance to algorithmic installations as well as drawings.

Immersify, the Tech Project hosting Theresa Schubert, develops advanced toolkit, encoding and innovative content for high-resolution immersive displays.

Together, with the "Immersive Minimalism" project, they want to investigate the mechanisms of immersion and its basic principles through a series of custom-developed studies established on theories of perception that aim at (re-)defining methods of immersion. Based on these findings the artist wants to create an immersive environment called "vibrant matter" of micro-macro landscapes with real UHD video footage in combination with digital generative graphics depicting non-human life.

Specificities of the residency

Visualization and media laboratories of PSNC, Poznan, Poland will host the residency. There are several installations and devices that can be used in the process of collaboration between the artist and the research groups. The specificities of the residency will be discovered when it will have started.

Innovation impact

The possible challenges that should be considered are new VR cinematographic language, interaction with displays, combination of different visualization and audio infrastructures as well as creation of final content for different immersive displays. The important issue is also UHD resolution (8K and beyond) which implies a lot of computation and time require for rendering or image processing.

Public exposure

Theresa Schubert's work has been exhibited internationally, ie. Ars Electronica Linz, ArtLaboratory Berlin, KW-Kunstwerke Berlin, Newcastle Region Art Gallery, Istanbul Biennial, European Media Art Festival, Museum Villa Roth. The exhibition of the residency results will be discussed during the Inception Meeting.

3.2.8 LIGHT MATTERS (Status: Not Started Yet)

- Tech Project name**:** HOT
- Artist**:** Stefane Perraud
- Grant category**:** 1
- Date (Start-End): December 2018 – March 2019
- Residency location**:** University of Malta, Malta
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five keywords: light, motion, photon, installation, nano-scopic

Residency abstract

Stefane Perraud is a visual artist coming from the performance and the multimedia scene. During his STARTS Residency "LIGHT MATTERS" he will be working with the HOT Project that aims to create revolutionary technologies based on the interaction of light with the motion of tiny objects.

Stefane intends to develop an artwork with the HOT laboratory on the plastic/visual representation of photon as a unit of light. This approach aims to achieve a set of laboratory experiences by questioning the symbolic meaning of this potential unit in our world apprehension. At this stage the project remains open in its thinking to allow, to the collaboration, real and constructive exchanges and a mutual blooming of our practices.

The artist would like to develop the relationship that he maintains with light in his installations, trying to understand the interactions of light in the infinitely small. As in HOT researches, the main idea will be to create a behavioural installation that invites the viewer to feel the effects of light on matter. The major innovation would be to inject the quick movement of light. The intention is to reveal the invisible or the infinitely small by a large-scale installation using the movement and energy that light produces and induces on matter.

The main idea is to burst or reverse the scale of the experiments driven at the HOT laboratory, in order to decline them in one or several installations at a human scale and without artifacts. We will be able to imagine, for instance, nano-scopic experiments that will have to be amplified by a resonance or atomic microscopy system in order to generate very high definitions and large scales video projections. Or also, for example, to use some resonance forms to amplify them on technical systems such as sound or vibrating actuators.

As the residency has not started yet, it is complicated to state on its specificities and public exposure plans. They will be defined at the inception meeting.

3.2.9 MUTED (Status: Running)

- Tech Project name**:** CONTENT4ALL
- Artist**:** Christophe Monchalin
- Grant category**:** 1
- Date (Start-End): November 2018 – June 2019
- Residency location: Berlin, Germany
- STARTS contract partner: Inova+
- STARTS monitoring partner: EPFL
- Five keywords: Signs, translation, dance, language, VR

Residency abstract

The Muted Residency ties together Christophe Monchalin and the research project Content4All.

Christophe Monchalin is a Brussels-based artist. He's specialized in the fields of motion design and digital art, with a background in science and robotics. Through his various visual and interactive works, he digs into the very nature of human feeling and behaviors.

Content4All explores the relationship between how human beings describe things and the visual and linguistic paradigms. The vision of the project is to be able to automatically translate spoken language in sign interpretation. In this context, they are currently working on the creation of a photorealistic 3D avatar, which implies lots of challenges around data collection, user experience and aesthetics.

At the meeting point of those two entities happens Muted. Muted is a poetic virtual reality experience that explores the artist's subject of choice, through the story of abandoned siblings that were forced to invent their own sign language in their childhood. The story, being narrated as they are now adults, is narrated through their language, expressing feelings that the spoken word can't express, enhanced by dreamlike visuals in a 3 aesthetic phases scenario, evolving from filmed dancers to 3D poetical models.

Specificities of the residency

On the final medium side, VR has been chosen amongst others for its evident unique immersion features. The outcome will be a mix of realities, from filmed dancers to fully 2d/3d CGI avatars. As the whole goal is to express feelings through body language, body capture techniques and photogrammetry scanning will also play a huge role in the realisation of the artwork.

As we are still in a very early step in the process (the residency is just about to begin), it is difficult to foresee how the co-creation process will specifically work. It is likely that Christophe will work with two Fraunhofer Berlin-based institutions members of Content4all, specialized in body capture and related techniques.

On the art-science congruency aspect, it's very interesting to use dance – which is by default pure art, exteriorisation of inner feelings through body movement – to communicate pure information, data, namely the language. Through this exploration of the relationship between the body and the information it communicates, it is very likely that enhanced forms of sign interpretations might be conceptualized.

Innovation impact

On Content4all's side, the challenges are multiple, the biggest being the creation of a photorealistic 3D avatar, which implies lots of sub-challenges around data collection, user experience and aesthetics.

The goal of the artist, on his side, is to find the closest, the most relevant visual form to follow the function: how can the body convey the message in the best possible way? How can the medium fit the message as well as possible, possibly even enhancing it? These questions will be dug using the different technologies and facilities mad available by the research project.

There is therefore a great room for innovation on the project's challenges by collaboration with this artist: design of the avatar, aesthetics, perception in space, integration of metadata to augment the body language, etc… Content4All gathers a quite big bundle of technologies to choose from to experiment on those topics.

Ultimately, these experimentations could lead to some guidelines and knowledge for Content4all and orient them better in the design principles of their avatar. Furthermore, this could lead to globally augment sign interpretation, as we know it today.

Public exposure

As the residency has not started yet, no public exposure has been foreseen for now.

3.2.10 MY FEARS MURMURED TO YOU (Status: Running)

- Tech Project Name**:** Virtual Close Up
- Artist**:** Laurent Bazin
- Grant category**:** 1
- Date (Start-End)**:** October 2018 – January 2020
- Residency location**:** Paris, France
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five keywords: Virtual Reality, 360º Close-Up, Emotions, Immersive filmmaking

Residency abstract

Laurent studied philosophy and French literature and then specialised in live performance. He wrote and staged his own plays, having developed, play after play, a strange and visually striking aesthetic, merging together live performance, dance performance as well as shadow and light effects, while always interrogating the relationship between the spectator and the gaze.

The artist will work with VR close-ups because there isn't the technological hardware already making filming up close possible in 360° filmmaking. VR today is used to film complicated spectacular things because we cannot film simple things. In order to bring to life a fully operational close-up technology, Lauren will test along with Gengiskan this VR in 360 close-ups, directly on the field, using it to tell a story.

This will be a work step by step, trying, again and again, changing parameters, narrative modes, techniques and dramaturgy. There is a need to provoke this technology, gauge its strengths and weaknesses, put it up against the wall so that it reveals its full potential so that we can reveal new pathways.

Lauren would like to demonstrate that it is possible to shoot simple yet overwhelming things in immersive filmmaking, if and only if we have the technological means to capture them. If these details can be caught with a 360° camera, then it would be possible to tell very delicate stories, filled with unsaid things and without resorting to dry emphasis. For actors to be silent in front of the camera, for their faces to do the talking without the use of words, we need close-ups. It is not the facial expression's duty to go towards the camera by exaggerating itself, it is the camera's duty to close in on that expression and capture its essence. The artist hopes to support this conviction with the movie making, a simple one on the surface, without computer generated graphics, in which two characters and nothing else will be inducing intense emotions through their sheer presence and the vitality of their exchange. A film in which admiration for the hardware and software used disappears at the favour of the beauty of a self-evident human contact.

Specificities of the residency

Laurent and Line Brucena from Gengiskan had already worked together in other projects, so this will turn their co-working process a lot easier since they already had found the best way to work along and to understand each other perspective.

Since this is a private project, Line is not a scientist by the raw meaning of it, and she has been working with artists for a long time, since they are VR professionals, in cinema and other artists' shootings.

Innovation impact

Laurent Bazin is working with Gengiskhan to establish a filming methodology so that the tool developed is more intuitive and ease of use by camera operators, stage directors and filmmakers. The aim is to find a way to 360º close-up, the closest possible. The artist would like to help this workflow as much as possible, from writing a scene to postproduction. If the technological threshold embodied by extreme close-ups in VR is outreached, if this does not prove too complicated to set up, then entirely new creative horizons will be open to all VR artists and this will have a huge impact on the use of VR, not only being seen as a technology but also a way to express art nowadays.

Public exposure

Although the residency only started in October 2018, the artist will be presenting his residency during the CENTQUATRE Open Factory in January at the CENTQUATRE (Paris), where the Tech Project is based.

3.2.11 ORBITAL RIVER STATION (Status: Running)

- Tech Project name: NANO2WATER
- Artist: HeHe
- Grant category: 2
- Date (Start-End): November 2018 – September 2019
- Residency location: Braga, Portugal
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Water, biosensors, nanomaterials, monitoring, IoT

Residency abstract

HeHe, Helen Evans and Heiko Hansen, are an artist duo. With humor, their work questions the ever-present energy needs of contemporary life, visualizing social, industrial and ecological paradoxes that result from today's technological landscapes.

For this residency they are working with the Nano2Water project from INL. This research projects explores a portfolio of technologies which includes biosensing devices and novel tailored nanomaterials for selective recognition and capture of water contaminants. The main outcome of this project is the integration of such technologies with electronics and network connectivity in an embedded device allowing water quality real time monitoring. Thus, creating a solution under the IoT paradigm.

During this residency, HeHe is working on the O.R.S (Orbital River Station). It is a large-scale floating sculpture. Its form and color resemble an oversized life ring used to rescue people in water. O.R.S. is an « observatorium » a vehicle for collecting and analyzing environmental information. Observations about the water are made directly in the river itself. O.R.S. collects data about velocity of the river current, monitors water quality and identifies pollutants with analog and digital devices. The data could then be transformed into a soundscape playing in the interior of the vehicle. Different experiments about water quality are planned: i.e. using the center of the ring to grow plants that filter and clean the river water or using evaporation techniques to extract drinking water from the river, etc.

Specificities of the residency

It is the really beginning of the residency. HeHe has spent one week in INL's lab in Braga to discover the sensors developed by the Nano2Water team and have a look at the research led by the team. The team is now going to see which sensors can be used in the O.R.S and how they can be transformed for this specific usage. The artists are really willing to use as many outputs from Nano2Water as possible, and are ready to experiment new things with the sensors. This will lead to research progress.

Innovation impact

This residency has a high environmental potential (thus dissemination potential) as the lab is investigating the potential toxicity of nano technologies in water and uses nanotechnology to monitor and capture specific water contaminants. The sensors developed by Nano2Water will be tested thanks to O.R.S, that will make a full-scale test.

Public exposure

O.R.S will travel along the Rhone River. This travel will start in Summer 2019. During its travel, the station will stop in several cities where the results of the water monitoring and the research led will be explained to the audience. The station will stop in several cities like Avignon and Aix en Provence.

3.2.12 PRINT YOUR CITY (Status: Running)

- Tech Project name: PTwist
- Artist: The New Raw
- Grant category: 1
- Date (Start-End): August 2018 – July 2019
- Residency location: Amsterdam, Netherlands
- STARTS contract partner: ArtShare
- STARTS monitoring partner: EPFL
- Five keywords: Plastic, Monetization, 3Dprinting, Community, Co-design

Residency abstract

The New Raw is a research and design studio based in Amsterdam run by architects Foteini Setaki and Panos Sakkas focused on large-scale 3D printing and the closing of material cycles through circular models, mostly plastic waste in cities. For the project Print Your City, they collaborate with PlasticTwist, an open platform for plastic lifecycle awareness and monetization that provides crowdsourcing tools, blockchain based facilities and a marketplace, amongst other.

The process of the residency implies the engagement of a targeted community. Through a cycle of workshops, its aim is to educate people to move from waste to resources. The focus is put on the public space and the urban environment, initiating a citizen reflection on what could be done out of the revaluation of this plastic waste in a common benefit and rewarding engagement.

The final planned outwork is a locally-sourced and locally-produced massive piece of urban furniture, co-designed by the citizens in regard of their needs and 3DPrinted out of the community's plastic waste.

The goal of the residency is not the artwork in itself, but to use it as a statement to raise awareness on the potential value of recycled plastic as a relevant and marketable raw material to make money &/or build things.

Specificities of the residency

The residency uses large scale 3D printing as a way not to outsource the production and to keep the resource in a circle as small as possible. On the other hand, the more "online" part of the tools – such as blockchain-based currency and wallet, gamification principles - is used to engage people in a rewarding process of engagement, through a co-design process and a monetary revaluation of the plastic waste.

On the human, co-creation side, the most interesting point is that the whole residency process relies on the citizen engagement of a targeted community through a human co-design process. The residency will only be the educative vector of solutions and design that will emerge from a shared

realization and identified needs that may be fulfilled by an untapped resource. The residency will act as an educator, a facilitator, a tutor, material and methodological frame while the citizens will be at the same time the actors and the subject of study – consumption pattern, behaviors, etc. There is a strong sociological aspect to this residency.

The other notion that strikes in this particular residency is the emphasis put on storytelling. While the output is the residency is foreseen as a massive 3Dprinted piece of urban furniture, it is the story behind that is of real value. The artifact will act as a statement of the whole process, of what is feasible out of a "et pluribus ununm" process of turning individual waste into common raw material. As the design will result from choices, consensus, the whole process will be reflected in the artwork, that therefore can't exactly be defined yet.

Here the art-science relationship lies in the idea of unlocking the creative potential of a community through tools and education. By bringing means to the people, the residency aim to ignite a co-creative process and to raise awareness, while designing real solutions for real needs.

Innovation impact

For Plastic twists, the real challenge is of various nature. First in the linking of the physical to the virtual: how to provide a digital, relevant tool to turn raw material into digital, to material back again? How to revaluate plastic waste material into a valuable trade good, currency, back into something beneficial? As they come in response to the expressed need of the population to change their habits in plastic consumption / recycling, they also need to understand the social fabric behavior, habits, needs, in order to give their tools the right shape.

In that regard they are very aware that artists, by their practice, can have a lot more social impact than any effort put by an University. Therefore, to sum it up, the whole goal is to analyze the community, adapt the tools in the meaningful way, bring the tech to the people, and co-create based on the raise of awareness and the unlocking of possibilities.

The major interest of the artists in that regard, is to enrich their Co-design methodology. Community engagement in a shared reflective and creative effort, the vector of which they are, is a paradigm they are used to work with, and they want to use and adapt the tools provided by PlasticTwist to enhance this process, and see how it could impact the methodology and in what regard.

Ultimately, on both sides, the goal is to generate knowledge, better understandings of the interstitial spaces where the developed technology / whole co-design process could be improved, aiming at real societal impact and change.

Public exposure

Most of the foreseen outreach will be made through the cycle of workshop of the community engagement process. So far, here is what is planned:

- Cycle of Things and Re-Button FabLab Lucerne

- 'Competition' ReBottle

- 'Competition' Little Plastic Stories

- Launch Testsite January 2019

- Lauch Challenge 19.2.19

- PlasticPlayground Rotterdam 6.-9.3. 2019

- PlasticTwist in Odense, Syddansk Universitet 25-30.3.19

- 4x PlasticTalks - NeuBad in Lucerne (It is a mix between Science Cafe and Citizen. Get the stakeholders together):

    - Wednesday 23.1. 2019 - PlasticTokens

    - Wednesday 27.2. 2019 PlasticEconomy

    - Tuesday 19.3. 2019 Plastic & Planet

    - Wednesday 17.4. 2019 Plastic & Water

3.2.13 QUI PERD GAGNE! (Status: Not Started Yet)

- Tech Project name: Hybrid Games
- Artist: Pascale Marthine Tayou
- Grant category: 2
- Date (Start-End): January 2019 – January 2020
- Residency location: Turnhout, Belgium
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: Game, iCards, digital, global village

Residency abstract

Pascale Marthine Tayou's work is characterized by its variability, since he confines himself in his artistic work neither to one medium nor to a particular set of issues. While its themes may be various, they all use the artist himself as a person as their point of departure. The objects, sculptures, installations, drawings and videos produced by Tayou have a recurrent feature in common: they dwell upon an individual moving through the world and exploring the issue of the global village.

This artist is host by the project Hybrid Games from the company Cartamundi.

During this residency Pascale Martine Tayou aims at making a game that sends a message of love between people. A social game that references the challenges our world is facing such as climate change or migration, but that in the same time sheds light into our dark world. A serious game that is pleasing as well as questioning and that can be good and bad. A game in which one can choose to save or to corrupt the world. In any case an alternative for the Monopoly game that dominated the world of board games in the 20th century and that is distributed worldwide by Cartamundi.

The ideas for the game will challenge the digital technologies and techniques of the company. These, and many other questions, will lead to a series of 'prototypes' (objects). Each reflection will lead to a different prototype and each prototype will be part of a larger (interactive) installation. This can be interactive virtual mascots, organic objects, magic, monumental or sculptural installations.

Specificities of the residency

The residency will start in 2019, it is not possible to fill in this part for now.

Innovation impact

The artist will ask unconventional creative questions that trigger the creative developers and engineers of Cartamundi to reflect in different ways upon the concept of 'game-making'. Through the (philosophical/conceptual) questions about game-making raised by Pascale Marthine Tayou, the artist aims to challenge the experts of Cartamundi on a conceptual and technological level.

Technologically Pascale Marthine Tayou and the creative engineers of Cartamundi will research the following questions.

1/ Spazialisation & visualization of the 'board' game. How can we make a game in the form of a 3-dimensional installation? How does the museum become the space of the game? Different options and challenges will be researched: use of sensors, use of projection technology, use of 3d sound systems and the use of iCard technologies.

2/ Interaction. The museum floor or museum space will become a board game on which various movable objects, created by Pascale Marthine Tayou, will be placed. How can these objects be interconnected between each other and its players? How does the movement of these objects and the different interactions result in 'data' that make the game interactive?

3/ Connecting the real and virtual world. Pascale Marthine Tayou and Cartamundi will research how people from the virtual world can be connected to players in the real world. How can iCard technologies be implemented to create connections between real and virtual players? Can the real game have a virtual impact or the other way around?

4/ Play of Forms. Cartamundi has various in-house machinery for the production of 2D-cards and 3-D objects. Pascale Marthine Tayou will create and invent forms that challenge the machines and the use of different materials.

Public exposure

This will be defined once the residency will have started.

3.2.14 SCI-FI MINERS (Status: Running)

- Tech Project name: CritCat
- Artist(s): João Martinho Moura
- Grant category: 1
- Date (Start-End): Sept. 2018 – April 2019
- Residency location: Braga, Portugal
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five keywords: Critical materials, Nanotechnology, Sci-fi, Audio-visual, Experience

Residency abstract

João Martinho Moura is an artist-researcher born in Portugal. His main interests lies on media art, art & science, digital music, and computational aesthetics, with special focus on visualization and development of new interfaces of artistic expression.

Sci-fi miners is an audio-visual exploration of the possibilities generated by the nanotechnological advances in the research of the replacement of critical materials, very rare on planet earth, by improved nanoparticle control. Those materials, critical metals, especially rare platinum group metals (PMGs), are essential and used for heterogeneous and electrochemical catalysis. At the Critcat project, researchers are exploring new ways to substitute those rare materials, in order to achieve optimal catalytic performance with earth-abundant materials. Those researchers will be named the sci-fi miners, since the extraction of those rare materials is currently made by the mining industry, in deep caves located in a small number of regions in the world, in very low concentrations, especially in South Africa. Currently, many countries are deeply or even totally dependent on the mining industry to obtain these materials, relevant for fuel cells, storage of renewable energy, and for autocatalyst emissions control. For some strategic metals, the European Union in totally dependent on import. Nowadays we can obtain a few grams of platinum per ton of rock, and the extraction process is very expensive and long.

Urgency is the word for this research. In the course of this residency João will be working mainly at INL (International Iberian Nanotechnology Laboratory) with Yuri Kolenko and with other Critcat project partners, exploring the projects' data generated nanoparticle parameters such as size, shape, surface structure, and computational simulations, to create audio-visual experiences, in virtual environments, intending to let the public know how significant this research is for human kind and for the sustainability of our planet.

Specificities of the residency

One of the aspects that turn this residency special is the good relation that João and Yuri already have and also the fact that they both have previously worked with artists and scientists and those experiences worked well.

They started co-working and changing ideas a little bit before the official residency commencement, and they are both willing to work together and they also share the same ideas about the co-creation process. João intends to work very closely with the tech project's team, first observing and learning more about the project, so he could truly reflect the project on his artwork.

Also, the residency is based on a project that is facing a very huge and important societal challenge: the lack of a critical material in the world, in this case, platinum, and the project are aiming to find through nanotechnology a way to replace that material. Both João and Yury are very aware of this challenge and João intends to reflect this on his artwork so that the public also understands its importance.

Innovation impact

We are speaking about the replacement of critical and rare materials, that the project will try to create and will replace materials only found in some places in the world like South Africa, and that's why the residency is called sci-fi miners. With the help of advances in nanotechnology and artificial intelligence, CritCat project is creating a solution for the need of those critical materials, so it has an immense impact on the society.

The artwork will explore this experience creating an audio-visual and performative experience, but most of all an immersive experience for the public, "deep into the Mines of the science fiction".

Public exposure

Nothing to add so far. The residency only started at the end of September and information on future events or publications hasn't been released yet.

3.2.15 SLEEP IN THE CITY (Status: Running)

- Tech Project name: Aarhus City Lab
- Artist(s): Walid Breidi and Virgile Novarina
- Grant category: 1
- Date (Start-End) November 2018 – July 2019
- Residency location: Aarhus, City Lab
- STARTS contract partner: ArtShare
- STARTS monitoring partner: ArtShare
- Five keywords: Sleep, sensor, brainwaves, smart city, health

Residency abstract

Walid Breidi's work is mainly concentrated on the question of artist-spectator relationship and narrativity through spontaneous gestural interactivity using digital techniques. The gesture of the spectator or the actor then becomes the source of a visual, sound, and narrative universes. Walid's work has been shown in Europe, the United States, Canada, Africa, and Singapore.

Virgile Novarina has devoted himself to the artistic exploration of his own sleep through writings and drawings. He has published six books entitled \"Ecrits et dessins de nuit\". During the "En Somme" series of performances, he sleeps publicly in shop windows, galleries or museums. Virgile has exhibited his work in France, Germany, Portugal and the United States.

During the residency Walid and Virigle are working with the Aarhus City Lab. This lab intends to be the meeting place for co-created and engaging urban experiments, artworks and solutions.

In science we know of five main brainwaves that our brain emits all the time. These brainwaves are active at different rates according to our states of consciousness: wake, sleep etc. Sleep is something we do because we have to, once we wake up, we forget all about it and get ready for the day. Sleep takes time from our work time and leisure time. Insomnia, unsatisfactory sleep, lack of sleep and stress is a 21st century problem. We know however scientifically that sleep is one of the states of consciousness that is most healing, creative, and productive.

The artists' aim is to sensitize people to the profound importance of sleep through performance, interactive art and network. The idea is to connect city sleep with networks and open data in order to create interactive poetic videos projected all around the city in real-time during the participants' sleep time. The team wants to create a dream atmosphere in the city at night by projecting videos of the city taken during the day but transformed, translated, and deformed by people's sleep brainwaves. Virgile Novarina will perform the opening night. For the following nights there will be several participants from the city.

Specificities of the residency

The concept of a Smart City can be hard to make tangible for citizens. This means that solutions/experiments within this space do not create the intended impact because citizens living and working in the city are not engaged. Aarhus has a broader and more citizen-centric perspective on what a Smart City is and can be. How can art help realize this vision? How can a seemingly non-technology enabled public space engage citizens into the concept of a Smart City?

Public exposure

Possible final exhibition at the IoT Week in Aarhus, Denmark, June 2019

3.2.16 SPELAION (Status: Running)

- Tech Project Name: DEAN
- Artist: Collectif TOAST
- Grant category: 1
- Date (Start-End): September 2018 - March 2020
- Residency Location: Grenoble, France
- STARTS contract partner: Ircam
- STARTS monitoring partner: Ircam
- Five keywords: e-material, caves, environment, waste reduction, urbanism

Residency abstract

Spelaion's residency team is composed of the Collectif TOAST (four former students of the Master of Art, Science and Technology in Grenoble, France) and the polymer experts of CEA.

The research team has developed an e-material, that can be modified with heat. The state of the material depends on the temperature of the place it is in. The material can get back to its initial shape infinitely.

Spelaion offers the public to explore and interact with an ever-changing surface. This surface, made out of this new and intelligent material, hangs from the ceiling. The public is invited to enter the space underneath the surface and interact with the material by moving. Together, people influence the surface and create shapes that simulate geological formations found in caves. Each individual interaction adds up to create a collective piece. Spelaion offers a reflection on the effects of time and renders noticeable movements that usually occur over decades. By letting people interact with such events, Spelaion questions our own impacts on the environment and our relationship to nature and matter. This opens up opportunities for innovation in product design, home design and urbanism. In the digital age, it is important to rethink the way we design and use the products we use every day to better suit our needs and reduce waste. Spelaion offers a glimpse into a possible future by using an intelligent material that may very well be the solution.

Specificities of the residency

The artistic collective is composed of 4 young multidisciplinary artists. As a group they combine different knowledge and expertise that can be really relevant for the residency project. The project is supported by l'Atelier Art-Science as a producer. The producer is giving them space to work, and help them manage the residency. The producer is used to working with CEA's team, as a result it facilitates the coordination of the project.

The research team is based in Grenoble, such as the collective. It is easy for them to meet and organize their residency time. The residency has just started but the team has already met twice for a

few days. The artists are spending time learning how to use the new material, and discovering the scope of possibilities. The research team is improving the e-material and discovering its potential usages. They share their experiments and when they are not working physically together, they use virtual means to exchange and talk as much as possible.

Innovation impact

The basis of this project is the e-material, that is a new material. It is not commercialized yet but the researchers are looking for companies willing to use it. They are thinking about founding a start-up to commercialize this innovative material.

By discovering the material, the artists are thinking of sustainable usage for it. The artists and researchers would like to explore the way human can conceive their environment differently. They reflect on everyday life challenges as well as societal challenges, such as material saving, energy saving, etc. As this material is reusable indefinitely, and can be re-shaped, it has a great potential for sustainable innovation.

The artists are the first users of this technology. They are bringing great inputs by using it for their artwork. They communicate the issues they are facing while using this material, and present how it can become handier and more usable.

Public exposure

The result of the residency will be presented at the Art-Science Biennale EXPERIMENTA in February 2020 in Grenoble, France.

The CEA is already willing to organise presentations of the project in its labs during the residency period.

The producer Atelier Arts-Sciences wants the artists to participate in pedagogic workshops for students in elementary and high schools.

3.2.17 TRANSHUMAN EXPRESSION (Status: Running)

- Residency Full Name **:** TRANSHUMAN EXPRESSION; HUMAN-MACHINE INTERACTION AS A NEUTRAL BASE FOR A NEW ARTISTIC AND CREATIVE PRACTICE
- Tech Project name**:** WeDRAW
- Artist**:** Liat Grayver
- Grant category **:** 1
- Date (Start-End)**:** September 2018 – December 2018
- Residency location: Genova, Italy
- STARTS contract partner: Inova+
- STARTS monitoring partner: Inova+
- Five keywords: Water, biosensors, nanomaterials, monitoring, IoT

Residency abstract

During this residency Liat Grayver is collaborating with the weDRAW project that develops multisensory technology to learn maths combined with the arts and improve creativeness of children. The artist will produce a series of visual imagery in the form of paintings, as well as digital- and video-based materials created by the interaction between human, computer and robotics — investigating the relation between the physical actions (manipulation of materials) and the visual outcome, namely a painting. Liat is also collaborating with the University of Konstanz on the e-David Project, exploring various approaches to integrate robotic and computer languages in the processes of painting and creative image-making, and that experience is supporting the co-creation process within the residency.

Specificities of the residency

The meeting point of art, science, social understanding and education as a place of inspiration, exchange of knowledge and creation is the main focal point of this residency. *Transhuman expression* is a very short residency; therefore the co-creation process is very intensive.

The interdisciplinary working platform between computer scientists, educational system and the arts can provoke a large range of questions regarding the use of robotics in the creative process of painting: How does one incorporate the use of computers and machines in the very intuitive and gestural practice of making a painting? How would we decompose the act of making a mark to a body movement (machine), taking logical decisions (computer) and emotional intentions (the artist)? Stimulated by various experiences and by the exchange between informatics and the robotic world, the artist found herself compelled to challenge and reconceptualise the foundations of the painterly practice, starting with the bodily movement of the single brushstroke all the way to questions concerning control and loss of control in the creative process. By using the facilities

provided by the weDRAW project at Casa Paganini, it is possible to investigate human creativity through the interactive methods of computer-to-machine (simulated to real) and man-to-machine (artist working together with the machine) methodologies. Liat's collaboration with the University of Konstanz, meaning ongoing access to the e-David painting robot lab, as well as other university facilities, is complementary to the collaboration with the weDRAW project and supports the co-creation process of this residency.

For the weDRAW project itself it is very valuable to experiment with new ways of providing visual feedback to children, and collaboration with Liat helps to develop and test new educative approaches to work with children.

In the initial phase the collaboration has been based on the focal question: how groups are formed and deformed? This question reflects on social and structural element that are based on simple mathematical and geometrical concepts, and the developments can be integrated to the weDRAW project for educational goals, as well as used by Grayver to create visual representation in the form of interactive art work.

The work is particularly focusing on the transformation of the development process from the simulated world into the real world, using hardware (robotics) to interact with real materials and actions — namely physical movement and interaction with materials, namely painting. The collaboration is centred around topics such as "paradigms of creativity" under the subjects of "New Materialism / Anthropocentrism / Post humanism" with the goal of positioning and understanding machine-assisted creative interfaces within the broader field of media art and painting traditions.

Innovation impact

Transhuman Expression is investigating methods to redefine one of the primitive forms of art—painting— into our current technology-based era. In collaboration with the weDRAW and Casa Paganini team (computer engineers, neuroscientists, machine engineers, psychologists and educators), they are exploring new methods for the application of paint on canvas, as well as for computer-assisted generation of physical images, and have been using computers and machines in the service of exploring new asthenic avenues in painting. They aspire to constitute a novel venue for the establishment of new and innovative ground in contemporary artistic practices.

Transhuman expression is a new body of both digital and physical artworks that will arise through the synthesis of the interactive learning methods of human movement investigated by weDRAW and Liat's ongoing research made with the e-David painting robot at the University of Konstanz.

Public exposure

In the last month of *Transhuman expression* there is an exhibition evening scheduled to take place at the Casa Paganini (Genova, Italy) on 20.12.2018, when wider public will have a chance go get familiar with the residency outcomes.

Despite the fact that the residency is formally ending in December, further public exposure is planned for 2019 and beyond (e.g. during STARTS Residencies annual event in the Centre Pompidou, Paris, on 27-28 March 2019 or during Liat's exhibition at the Jewish Museum in Berlin).

Additionally, Liat is publishing articles in our STARTS Residencies blog (e.g. Transhuman Expression Human-machine interaction as a neutral base for a New artistic practice).

ANNEX A.X Monitoring templates

- A.01.VERTIGO-residency-monitoring-guideline.pdf
- A.02.VERTIGO-[residency_name]-CONTRACT-FR-template.pdf
- A.03.VERTIGO-[residency_name]-CONTRACT-PT-template.pdf
- A.04.VERTIGO-[residency_name]-INCEPTION-communication-template.pdf
- A.05.VERTIGO-[residency_name]-INCEPTION-internal-template.pdf
- A.06.VERTIGO-[residency_name]-INCEPTION-interviews-artist-template.pdf
- A.07.VERTIGO-[residency_name]-INCEPTION-minutes-templates.pdf
- A.08.VERTIGO-[residency_name]-INCEPTION-interviews-techproject-template.pdf
- A.09.VERTIGO-[residency_name]-MIDTERM-internal-template.pdf
- A.10.VERTIGO-[residency_name]-MIDTERM-minutes-templates.pdf
- A.11.VERTIGO-[residency_name]-MIDTERM-work-plan-update-template.pdf
- A.12.VERTIGO-[residency_name]-CLOSURE-internal-template.pdf
- A.13.VERTIGO-[residency_name]-CLOSURE-minutes-templates.pdf
- A.14.VERTIGO-[residency_name]-CLOSURE-work-plan-update-template.pdf
- A.15.VERTIGO-[residency_name]-RESIDENCY-private_report.template.pdf
- A.16.VERTIGO-[residency_name]-RESIDENCY-public_report.template.pdf
- A.17.VERTIGO-[residency-name]-RESIDENCY-artwork-description-templates.pdf
- A.18.VERTIGO-[residency-name]-RESIDENCY-artist-feedback-template.pdf
- A.19.VERTIGO-[residency-name]-RESIDENCY-producer-feedback-template.pdf
- A.20.VERTIGO-[residency-name]-RESIDENCY-techproject-feedback-template.pdf
- A.21.VERTIGO-(residency-name)-RESIDENCY-monitor-feedback-template.xls.pdf
- A.22.VERTIGO-[residency-name]-RESIDENCY-presentation-template.pdf

Residency Monitoring Guideline

Follow-up actions on co-creation processes

Grant agreement no: 732112

Introduction

This document intends to list a set of follow-up actions of the co-creation processes implemented within the VERTIGO STARTS residencies, namely during the "residency phase" of the programme. These actions are to be executed by the partners responsible for supervising the residencies, i.e. IRCAM, ArtShare, INOVA+ and EPFL.

In a schematic way, the monitoring of a residence is divided into 5 phases:

- The pre-residency phase which follows directly the selection of the residency and which prepares the first meeting with all the parties of the residency.
- The inception meeting provides information and gathers signed co-production contracts.
- The mid-term meeting which allows reviewing the work done during the first period of the residency and starting the final phase whose work plan could be updated.
- The closure meeting makes it possible to conclude the residency with all the parties of the residency, collect the various results and start the post-residency phase.
- The post-residency phase concludes the monitoring phase by gathering the opinions of each of the parties, monitor included. This conclusive data allows to present the residences under their best angle, as well as to compare them in a final deliverable.

For each of these steps, please produce a minute, write down your personal remarks and warn us via mail, once the documents are uploaded on the cloud.

Of course, the monitoring of a residence is not reduced to these 5 phases. Your role is to constantly monitor the good conduct of exchanges, or even stimulate them so that the residence is productive. In order to follow the activity, the artist and the tech project must post articles in the residencies blog, under your impulse. Finally, the various events residencies teams take part in, organized by STARTS or not, will offer you potential additional opportunities to meet the actors of the residency.

First of all, thank you to kindly connect to the cloud vertigo-cloud.ircam.fr.

If you don't have a login, please contact the cloud administrator: Hugues.Vinet@ircam.fr

Do not hesitate to use this address vertigo_monitoring@listes.ircam.fr for any question, remark or difficulty, as well as after each step of monitoring, so that we can all follow the general dynamics of the residencies.

 # Actors:
A = Tech Project
B = Artist
C = Producer
D = Monitoring partner
E = Ircam global monitoring partner

Document templates

First connect to the vertigo-cloud.ircam.fr with your account.
In the cloud, go to /Residencies/Residencies-monitoring folder
You will find a template folder named: AAA_Artist-TechProject-Residency_Template
Please duplicate this folder and change the name of it according to the residency data.
Inside that newly created folder, you will find a series of template files helping you to monitor the various steps of the residency. Please replace [residency_name] by the name of your residency.

- ./1 inception:
  - VERTIGO-[residency_name]-INCEPTION-communication-template.doc
  - VERTIGO-[residency_name]-INCEPTION-internal-template.dot
  - VERTIGO-[residency_name]-INCEPTION-interviews-artist-template.doc
  - VERTIGO-[residency_name]-INCEPTION-interviews-techproject-template.doc
  - VERTIGO-[residency_name]-INCEPTION-minutes-templates.doc
  - ./1 inception/Contract Templates:
    - VERTIGO-[residency_name]-CONTRACT-FR-template.doc
    - VERTIGO-[residency_name]-CONTRACT-PT-template.doc
- ./2 mid-term:
  - VERTIGO-[residency_name]-MIDTERM-work-plan-update-template.doc
  - VERTIGO-[residency_name]-MIDTERM-internal-template.doc
  - VERTIGO-[residency_name]-MIDTERM-minutes-templates.doc
- ./3 closure:
  - ./3 closure/Closure Document Templates:
    - VERTIGO-[residency_name]-CLOSURE-work-plan-update-template.doc
    - VERTIGO-[residency_name]-CLOSURE-internal-template.doc
    - VERTIGO-[residency_name]-CLOSURE-minutes-templates.doc
  - ./3 closure/Residency Outputs Templates:
    - VERTIGO-[residency-name]-RESIDENCY-artwork-description-templates.doc
    - VERTIGO-[residency_name]-RESIDENCY-private_report.template.doc
    - VERTIGO-[residency_name]-RESIDENCY-public_report.template.doc
- ./4 post-residency:
  - VERTIGO-[residency-name]-RESIDENCY-artist-feedback-template.doc
  - VERTIGO-[residency-name]-RESIDENCY-techproject-feedback-template.doc
  - VERTIGO-[residency-name]-RESIDENCY-producer-feedback-template.doc
  - VERTIGO-[residency-name]-RESIDENCY-monitor-feedback-template.doc

Also, please update the global monitoring excel sheet and version it when modified:
/OwnCloudVertigo/Residencies/Residencies-monitoring-global/Information-residencies #N.xlsx

Pre-residency phase

- D liaises with A, B and C to establish the contact between the different parties of the residency.
- D fills in the contract template with the information at its disposal and then let it circulate between A, B and C.
  ./1 inception/Contract Templates:
  - VERTIGO-[residency_name]-CONTRACT-FR-template.doc
  - VERTIGO-[residency_name]-CONTRACT-PT-template.doc
- D asks B for optional IPR (Intellectual property rights) aspects related to the co-creation process (e.g. use of open source software, licenses, etc.) that might be added to the co-creation contract.
- D set a date for the Inception Meeting with A, B and C.

Inception meeting

Inception Meeting – this meeting shall mark the first day of the residency (official start date).

- Formal introduction of participants in the residency programme (who is who, previous experience, previous experiences in residencies);
- B and C present the artistic proposal submitted to A and describes its expectations on the collaboration.
- A explains the challenges faced by the team and its expectations towards the contribution of the artist.
- D clarifies the ambitions and formal procedures of the STARTS Residencies programme
- D guides the discussion between A, B and C on the final version of the Action Plan and residency project content, which shall be finalised at this meeting; including the Monitoring tools to be used to collect regular feedback on the progress of the work (online meetings, emails, blog for the communication);
- D gives the communication Kit to A, B and C
  /OwnCloudVertigo/Communication/CommunicationKit
- D presents the "communication duties" that the residency will have to fulfil:
  - Action on the blog:
    - One access for each residency will be given
    - The artist/Tech project coordinator/Producer is welcome to publish (video, playlist sound, text, picture, graphic, infographic, animation)
    - The blog has been thought as a creative place and publications format will be selected by the residency team in order to match the work done in the residency.
    - The three questions to the artist

./1 inception/VERTIGO-[residency_name]-INCEPTION-communication-template.doc

- Pictures: A and B have to send pictures regularly to D for Communication Partners to put on the website, and social media (this pictures can be pulled out of the blog)
- Video: Production of a short video (2 or 3 minutes) at the mid-term of the residency
- Public Events: Schedule of the exhibition/workshop in which the artist is taking part, that the communication team can relay.

- Signature of the co-production contract by all parties and annex (Budget Plan and Action Plan)
  ./1 inception/Contract Templates:
  - VERTIGO-[residency_name]-CONTRACT-FR-template.doc
  - VERTIGO-[residency_name]-CONTRACT-PT-template.doc

- D interviews A and B separately using the semi-structured interview guide.
  ./1 inception:
  - VERTIGO-[residency_name]-INCEPTION-interviews-artist-template.doc
  - VERTIGO-[residency_name]-INCEPTION-interviews-techproject-template.doc
- Conclusion of the inception meeting, potential scheduling of online meetings and mid-term meeting

- Right after the Inception Meeting, D should :
  - Produce the minute ./1 inception/VERTIGO-[residency_name]-INCEPTION-minutes-templates.doc
  - Upload the record of the interview on the cloud and transcribe the interview (at least the important parts)
  - Fill in the internal evaluation ./1 inception/VERTIGO-[residency_name]-INCEPTION-internal-template.dot
  - Update the global monitoring document (adding a new numbered version ./Residencies/Residencies-monitoring-global/Information-residencies #N.xlsx
  - Scan the signed contract
  - Pay the artist (40%) (or ask the partner to do so - only for EPFL)
  - Once everything is done and uploaded on the cloud, D sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

Mid-term meeting

Mid Term Meeting - this meeting shall be held at the middle of the residency.

- A, B and C present the progress done regarding the Action Plan, describing:
  - what worked well;
  - what needs to be improved and/or exist;
  - adjustments/changes made on the initial plan;
  - achievement of defined milestones;
  - revision of the following months and agreement on necessary changes.

- A, B, C and D potentially updates the Budget Plan and Action Plan
  ./2 mid-term/VERTIGO-[residency_name]-MIDTERM-work-plan-update-template.doc
- D reminds to A, B and C the expected outcomes and present the available templates:
  ./3 closure/3 closure/Residency Outputs Templates:
    - VERTIGO-[residency-name]-RESIDENCY-artwork-description-templates.doc
    - VERTIGO-[residency_name]-RESIDENCY-private_report.template.doc
    - VERTIGO-[residency_name]-RESIDENCY-public_report.template.doc

- After the meeting D :
  - Writes the minutes
    ./2 mid-term/VERTIGO-[residency_name]-MIDTERM-minutes-templates.doc
  - Completes the internal evaluation
    ./2 mid-term/VERTIGO-[residency_name]-MIDTERM-internal-template.doc
  - Updates the global monitoring document
    /Residencies/Residencies-monitoring-global/Information-residencies #N.xlsx
  - Pays the artist (40%) / or ask the partner to do so (for EPFL)
  - Once everything is done and uploaded on the cloud, D sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

Closure meeting

Closure Meeting – this meeting shall mark the final day of the residency (official end date).

- A, B and C discuss the results and the residency process
- A, B, C and D potentially updates the Budget Plan and Action Plan
  ./3 closure/3 closure/Closure Document Templates:
    - VERTIGO-[residency_name]-CLOSURE-work-plan-update-template.doc
- B provides documents required in the co-production contract
    - The Artwork ready for public exposure in cultural venues [*only here for Category 1*], which may be in the form of sketches or prototypes but preferably in the form of achieved works [*only here for Category 2*], in the form of an achieved work and its fully functional technical setup;
    - A confidential report presenting the work done, the process followed for the execution of the residency in reference to its work plan, its outcomes, [and a financial annex presenting the incurred expenses by each Party in reference to the budget defined in Article 4]. The diffusion of the report will be restricted to the residency team, the Tech Project partners and the Tech Project Funding Body;
    - [*If relevant depending on the nature of the Artwork*] A production documentation of the Artwork describing the setup necessary for implementing it;
    - Public materials in English language presenting the main outcomes of the Residency: a video of 2 to 5 minutes and a 4 pages document at A4 format.
- After the meeting D :
    - Writes the minutes
      ./3 closure/3 closure/Closure Document Templates:
        - VERTIGO-[residency_name]-CLOSURE-minutes-templates.doc
    - Completes the internal evaluation
      ./3 closure/3 closure/Closure Document Templates:
        - VERTIGO-[residency_name]-CLOSURE-internal-template.doc
    - Updates the global monitoring document
      /Residencies/Residencies-monitoring-global/Information-residencies #N.xlsx
    - Pays the artist (20%) / or ask the partner to do so (for EPFL)
    - Sends to parties the post-residency questionnaires.
    - ./4 post-residency:
        - VERTIGO-[residency-name]-RESIDENCY-artist-feedback-template.doc
        - VERTIGO-[residency-name]-RESIDENCY-techproject-feedback-template.doc
        - VERTIGO-[residency-name]-RESIDENCY-producer-feedback-template.doc
        - VERTIGO-[residency-name]-RESIDENCY-monitor-feedback-template.doc
    - Once everything is done and uploaded on the cloud, D sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

Post-residency phase

A, B, C and D fill in the post-residency form.

- ./4 post-residency:
  - VERTIGO-[residency-name]-RESIDENCY-artist-feedback-template.doc
  - VERTIGO-[residency-name]-RESIDENCY-techproject-feedback-template.doc
  - VERTIGO-[residency-name]-RESIDENCY-producer-feedback-template.doc
  - VERTIGO-[residency-name]-RESIDENCY-monitor-feedback-template.doc
- Once everything is done and uploaded on the cloud, D sends an email to vertigo_monitoring@listes.ircam.fr to inform the other partners.

FAQs

- When does the residency begin/have to begin?

The residency can start when the artist and project best see fits. In concrete, the residency could start today. It will be better if the residency participants align the workplan and see when will be the face-to-face contacts, to determine the best occasion to start the residency. It would be great if you could organize the Kick-off meeting right at the start of this process.

- Where does the residency begin/have to begin?

The best place for the inception meeting is the Tech Project working place so as to be sure that the artist gets a deep introduction in the producing means.

- What is the freedom in the time scope (ex: the 3 months of the residency don't have to be consecutive, but what is the biggest timelapse in which they can happen?)

As ultimate deadline, the residency should be completed in early 2020. However, for a 3 months residency, I would say that no more than a year (also because we want to ensure that we have results to present during the project and not only at the last mile).

- What is counted as « effective residency time »? Is it when the artist is PHYSICALLY in residency in the tech project, or just a commonly decided period of time in which they co-create, regardless of location?

Commonly decided period of time in which they co-create, regardless of location

CO-PRODUCTION CONTRACT

between :

x [*name*],[*address*], hereinafter referred to as “Artist “
[*Must be a person; in case of several artists, one of them is the contractor in so far as possible, with still the possibility of having several contractors with their percentage of share in the artwork*]

and

y [*project full partner name*], whose headquarters are located at [*address*], hereinafter referred to as “Tech Project Partner”

and

z [*producer full partner name*], whose headquarters are located at [*address*], hereinafter referred to as “Producer”

and v [*VERTIGO full partner name*], whose headquarters are located at [*address*], hereinafter referred to as “VERTIGO/ STARTS Residencies Partner”,

hereinafter collectively referred to as “Parties” or individually as “Party”.

Preamble and definitions

“VERTIGO” designates the Coordination and Support Action project of Grant Agreement N° 732112 supported by the European Commission under its H2020 Program. VERTIGO is in charge of managing the STARTS Residencies program managing artistic residencies with tech projects. Together with the VERTIGO/ STARTS Residencies Partner, the parties involved in the implementation of VERTIGO are the following and are hereinafter collectively referred as “Members of the VERTIGO Consortium” [remove the VERTIGO/ STARTS Residencies Partner in the following list]:

- INSTITUT DE RECHERCHE ET COORDINATION ACOUSTIQUE/MUSIQUE (IRCAM), established 1 place Igor Stravinsky – F-75004 Paris, France
- ARTSHARE INVESTIGACAO TECNOLOGIA EARTE LDA**,** established in RUA QUINTA VELHA 249, ESTARREJA AVEIRO 3860 249, Portugal
- FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. (FHG), established in HANSASTRASSE 27C, MUNCHEN 80686, Germany
- INOVAMAIS – INNOVATION SERVICES S.A. (INOVA+) SA, 9144/971216, established in RUA DR AFONSO CORDEIRO 567, MATOSINHOS 4450-309, Portugal
- ASSOCIATION CULTURE TECH., established in 20 RUE PORTAIL BOQUIER, AVIGNON 84000, France
- ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE (EPFL), 414110, established in BATIMENT CE 3316 STATION 1, LAUSANNE 1015, Switzerland
- LIBELIUM COMUNICACIONES DISTRIBUIDAS SOCIEDAD LIMITADA (LIBELIUM**)** SL, Z42864, established in INSTALACIONES CEEI - CALLE MARIA DE LUNA 11 NAVE 5, ZARAGOZA 50018, Spain

One of the main goals of VERTIGO is to support collaborations of artists with research and development (“R&D”) projects in the field of Information and communication technologies (“ICT”), in particular in the framework of a program of artistic residencies. This program sets a collaboration framework of artists with partners of an Tech Project, aiming at producing an innovative artwork, based on the Tech Project technology. [optional The hosting and organization of the residency is under the responsibility of a producer.]

“The Tech Project” designates an R&D project in the field of ICT, supported by [Funding agency] (“Tech Project Funding Body”) under [grant agreement reference], in which the Tech Project Partner participates. The other parties involved in the project are :

- Name, address
- Name address

All the parties involved in the Tech Project are hereinafter collectively referred to as “Members of the Tech Project Consortium”

The Parties together with all the Members of the VERTIGO Consortium and all the Members of the Tech Project Consortium are hereinafter referred to individually as “Extended Party” and collectively as “Extended Parties”.

The Tech Project Partner guarantees that it has been mandated by the other Members of the Tech Project Consortium in order to represent them in the current contract and that it has been granted all necessary rights to do so.

VERTIGO has published on January 10, 2018 a call for artistic residencies (Call) with a selection of Tech Projects, including the Tech Project, which has expressed interest in participating in the VERTIGO/STARTS residencies program, on the basis of technological elements, hereinafter designated as “ICT Technology”, described in Exhibit 1.

The Artist and the Producer have presented a joint application to the Call and have been selected by the international jury set up by VERTIGO.

Article 1 - Object

The object of the contract is to define the conditions of the residency ("Residency") of the Artist with the Tech Project, with the support of the Producer, in the framework of VERTIGO.

The goal of the Residency is twofold:

- The production of an original artwork ("Artwork"), based on the ICT Technology, to be designed by the Artist and produced as part of the Residency, following the artistic project ("Artistic Project") presented in Exhibit 2.
- To be the framework of a collaboration between the Artist and the , in order to elaborate new and innovative ideas about the ICT Technology.

The execution of the Residency shall follow the workplan ("Workplan") described in Exhibit 3. The Workplan shall include at least two deadlines of delivery associated to a meeting between all the Parties, one at mid-term and the second at the end. Any change on the workplan shall be jointly agreed in advance in written and traceable form by all the Parties.

The mid-term deadline shall include a review involving all Parties and the production of a short video presenting the done work for the VERTIGO public dissemination

The final outcome of the Residency will include the delivery of the following elements:

- The Artwork ready for public exposure in cultural venues [*only here for Category 1*], which may be in the form of sketches or prototypes but preferably in the form of achieved works [*only here for Category 2*], in the form of an achieved work and its fully functional technical setup;
- A confidential report presenting the work done, the process followed for the execution of the residency in reference to its workplan, its outcomes, and a financial annex presenting the incurred expenses by each Party in reference to the budget defined in Article 4. The diffusion of the report will be restricted to the Parties, the VERTIGO/ STARTS Residencies Partners, the Tech Project partners and the Tech Project Funding Body;
- [*If relevant depending on the nature of the Artwork*] A technical documentation of the Artwork describing the setup necessary for implementing it;
- Public materials in English language presenting the main outcomes of the Residency: a video of 2 to 5 minutes and a 4 pages document at A4 format.

Article 2 – Scope and limits of the contract

The present contract does not create a joint-venture company and under no circumstances be considered as a holding between the parties. The responsibility of each Party is strictly limited to the conditions mentioned in this contract, particularly the conditions of take by each Party to any other third party.

Article 3 – Period of execution and termination

The starting date of the contract is: [*normally September 1st 2018, unless delayed start agreed by the Parties*].

The contract will end upon one of the following conditions:

- after delivery of all elements specified in Article 1 and final payment by the VERTIGO/ STARTS Residencies Partner [and *possibly* the Producer]. The foreseen date of completion is [XXX, should not be later than March 2020]
- in case of termination initiated by the VERTIGO/ STARTS Residencies Partner in the conditions specified in Article 7. In this case, no other payment will be due by the VERTIGO/ STARTS Residencies Partner to the Artist and all Parties give up any pursuit exercised against one or several other Parties for a direct or indirect damage incurred by the partial or total non-fulfillment of the measures of the present contract.

Article 4 – Budget, funding and payments

The total budget of the residency is: [*consolidated budget in euros*].
Its details are indicated in Exhibit 4.

It includes:

1. An amount of [max 15.000€ for Type 1 and max 30.000 for Type 2] to be paid by the VERTIGO/ STARTS Residencies Partner to the Artist as a global fee in counterpart of a commission for designing and producing the Artwork and a license granted by the Artist to the other Parties in order for them to exploit elements of the Artwork as described in Article 5. This amount will be paid to the Artist upon the condition that he/she provides the VERTIGO/ STARTS Residencies Partner with completed French forms 5000 and 5003 which apply for an exemption of the withholding tax on royalties collected from

French sources, the Artist being a resident of [*specify country here*] for tax purposes. Without these documents, the VERTIGO/ STARTS Residencies Partner will apply a deduction of the amount to be paid to the French tax administration (indicative rate as of December 2017: 33%).

May the Artist have specific expenses for his/her participation in the Residency, including for travel, subsistence, purchase and delivery of goods and payment of third parties, and participation in VERTIGO public events presenting the work, he/she will cover them on his/her own.

This amount will be paid to the Artist in 3 parts: An advance payment of 40% i.e. [XXX] at the signature of the current contract, 40% i.e. [YYY] after validation of the Residency mid-term assessment by the VERTIGO/ STARTS Residencies Partner and the remaining 20%, i.e. [ZZZ] after the final assessment by the VERTIGO/ STARTS Residencies Partner.

2. [Optional] An amount of [TTT] funded by the Producer in order to cover its own expenses

3. [Optional] An amount of [TTT] funded by the Tech Project in order to cover its own expenses

Article 5 – Intellectual Property and Exploitation

The copyright in the Artwork is and shall remain the property of the Artist as fixed in French Intellectual Property Law (Code de la propriété intellectuelle). The Artist certifies that he/she is the sole author of the Artwork, that this is an original work that does not copy other preexisting works. The Artist certifies that he/she has not already accepted nor will accept during the execution of the current contract any other agreement with a similar subject.

The Artist grants all the other Extended Parties a non-exclusive right to publicly present the Artwork and its related public documentation through their dissemination channels. These rights-of-use are granted for the legal duration of the author's rights or related rights or their rights holders, as governed by both French or foreign law, current or future, including possible extensions to this duration. These rights are applicable worldwide. The Artist certifies that he/she is the owner of the rights which he/she grants to the other Parties. The Artist guarantees to the Extended Parties the full use, clear of all claims, liens and encumbrances, of the rights granted in the current contract, and guarantees the Parties against any fraud, claim or eviction or counterfeit litigation.

The Tech Project Partner grants the other Extended Parties a non-exclusive right, applicable worldwide, to use the elements of the Tech Project Technology necessary for the Residency execution, until the end of the current contract. It grants them a non-exclusive right applicable worldwide to use the elements of the Tech Project Technology necessary for the operation of the Artwork at least three years after the end of the current contract. The Tech Project Partner guarantees to the other Parties its full ownership of the rights necessary for these purposes.

Any Extended Party presenting publicly the Artwork will take in charge without soliciting the other Parties the statements and the payment of author's rights and performers' rights fees to Royalties Collecting and Distributing Societies.

The Parties grant any Extended Party rights to carry out, or cause to be carried out, shootings and/or audiovisual recordings during the work periods, of all staff involved in the Residency.
The Parties authorize the concerned Extended Party to grant the right to reproduce, to use and to broadcast to the producer of the video recording.
They authorize the concerned Extended Party, on free basis, non-exclusive and for an unlimited time, the rights to use these pictures and/or video recordings in the following conditions:

- Promotional purposes;
- For information and advertising purposes in television or radio channels broadcasting for short sequences
- The promotional and advertising activities, and the non-commercial exploitations in which artists and technicians could appear will not be subject to any additional remuneration.

Any commercial use of these pictures and recordings must be object of a separate contract.

Article 6 – Publicity and Compulsory Credits
All Parties and their mandated third parties shall include, if possible, on each publication or communication (print and/or multimedia) related to the public presentation of the Artwork, the following mention:
"*Work designed by [Artist name] with the support of the STARTS Residencies Project as part of the STARTS program of the European Commission, based on technological elements from the [Tech Project name], with the support of [Producer name]*" and include the logos of STARTS Residencies, STARTS, European Commission, and if they exist the logos of the Tech Project and of the Producer.

Article 7 - Rights and Obligations of the VERTIGO/ STARTS Residencies Partner

[Case 1 : VERTIGO/ STARTS Residencies Partner directly in charge of monitoring the residency execution :
The VERTIGO/ STARTS Residencies Partner will monitor the execution of the Residency, acknowledge receipt and validate the content of the planned deliverables and manage the related payments to the Artist with a maximum delay of 45 days after validation.

In case of any problem encountered in the execution of the Residency which prevents the execution of the planned workplan and its updates jointly agreed by all Parties, it may ask in written form the other Parties to take corrective actions within a maximum delay of two months; after this delay, based on his appreciation of the progress made, it may decide, in agreement with the relevant decisions bodies of VERTIGO/STARTS Residencies, to terminate the current contract with no delay.]

[Case 2 : EPFL mandated by the VERTIGO/ STARTS Residencies Partner for monitoring the Residency execution
The VERTIGO/ STARTS Residencies Partner will mandate a member of VERTIGO, Mr/Mrs XXX of EPFL ("Mandated VERTIGO/ STARTS Residencies Partner" to monitor the execution of the Residency, acknowkedge receipt and validate the content of the planned deliverables. The VERTIGO/ STARTS Residencies Partner will manage the related payments to the Artist with a maximum delay of 45 days after validation by the Mandated VERTIGO/ STARTS Residencies Partner.

In case of any problem encountered in the execution of the Residency which prevents the execution of the planned workplan and its updates jointly agreed by all Parties, the VERTIGO/ STARTS Residencies Partner may ask in written form the other Parties to take corrective actions within a maximum delay of two months; after this delay, based on his appreciation of the progress made, it may decide, in agreement with the relevant decisions bodies of VERTIGO/STARTS Residencies, to terminate the current contract with no delay.]

Article 8 - Rights and Obligations of the Artist
All Parties acknowledge that the Artist will remain the sole author of the Artwork and shall keep all freedom of decision and choice for its design.

The Artist will be the main Party in charge of the execution of the Workplan, with the assistance of the Tech Project and the Producer. He/she undertakes to make his/her best efforts to assure the success of the Residency. He/she also commits in contributing to its public communication through the dissemination channels of the other Parties.

Article 9 - Rights and Obligations of the Tech Project Partner

The Tech Project Partner will provide the Artist with the elements of the ICT Technology in the forms and at deadlines conformant to the workplan and will assist him/her in documenting the ICT Technology. It will also provide the Artist with the foreseen hosting infrastructure and resources. It undertakes to make its best efforts to assure the success of the Residency.

The Tech Project Partner will coordinate the exchanges between the Parties and the other participants of the Tech Project, including the organization of the participation of the Artist in the Tech Project innovation and dissemination activities.

[Optional] Article 10 - Rights and Obligations of the Producer

The Producer will be in charge of the overall coordination of the Artwork production process and of the allocation of relevant means and staff. It will provide the Artist with all relevant conditions of hosting and technical infrastructure necessary for the production of the Artwork. It undertakes to make its best efforts to assure the success of the Residency.

The Producer will have the full power of decision on the expenses of the budget it manages.

The Producer will keep separate accounts of expenses and receipts concerning the Artwork production. It will control the accounting of the sums to pay as reported in the attached budget. All of the documents, accounting vouchers and other supporting documents related to the Residency have to be kept available for the VERTIGO/ STARTS Residencies Partner who will have access upon request.

Article 11 - Liability

No Party shall be responsible to any other Party for any indirect or consequential loss or similar damage such as, but not limited to, loss of profit, loss of revenue or loss of contracts, provided such damage was not caused by a willful act or by a breach of confidentiality.

Article 12 – Disclosure of Information

All information in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to any other Party (the "Recipient") in connection with the current contract during its implementation and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within 15 calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

The Recipients hereby undertake in addition and without prejudice to any commitment of non-disclosure under the Grant Agreement, for a period of 4 years after the end of the Project:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information to any third party without the prior written consent by the Disclosing Party;
- to ensure that internal distribution of Confidential Information by a Recipient shall take place on a strict need-to-know basis; and
- to return to the Disclosing Party on demand all Confidential Information which has been supplied to or acquired by the Recipients including all copies thereof and to delete all information stored in a machine-readable form. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable laws and regulations or for the proof of on-going obligations.

The Recipients shall be responsible for the fulfillment of the above obligations on the part of their employees or third parties involved in the contract and shall ensure that they remain so obliged, as far as legally possible, during and after the end of the contract and/or after the termination of the contractual relationship with the employee or third party.

The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information becomes publicly available by means other than a breach of the Recipient's confidentiality obligations;
- the Disclosing Party subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of confidence by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidence to the Disclosing Party;
- the disclosure or communication of the Confidential Information is foreseen by provisions of the Grant Agreement;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Party; or
- the Confidential Information was already known to the Recipient prior to disclosure or
- the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order

Article 12 - Insurances

All Parties shall take out adequate insurance to all risks for the equipment they will bring respectively into the execution of the Residency and for the staff they have respectively hired, including for travels.

Article 13 – Force Majeure

This Agreement will be revoked as of right and without compensation of any kind in all cases of force majeure recognized by the law and case law (natural disaster, strike, national mourning, riots, terrorism acts, war, epidemic, etc).

Article 14 –Attribution of Jurisdiction
In case of any dispute, execution, or termination of this contract, the partners agree to submit to the Tribunaux de Paris, but only after all amicable ways (such as conciliation or arbitration) have been exhausted.

Article 15 –Governing Law
This Agreement is governed by French law.

Done in XXX, in Y original copies

Exhibit 1: Tech Project Technology description

[To be completed from Call for residencies]

Exhibit 2. The Artistic Project

Exhibit 3: Workplan of the Residency

[*The workplan shall be an updated version of the one submitted by the Artist in the Call, discussed and agreed by all Parties.*
It should include at least:

- *a decomposition into tasks associated to periods of work, with their objectives and expected delivery, place of execution, participants and their respective roles; the inclusion in this workplan of*
- *the description of the technical approach, including the hardware and software elements to be integrated and/or developed for producing the Artwork, and roles of the Parties in bringing/developing these elements;*
- *the means of communication between partners, including the implementation of self-reporting methods and the definition of decision-making rules;*
- *the two deadlines and their deliveries mentioned in Article 1*]

Task Description	Parties involved	Place of execution	Expected outcomes	Periods of work	Expected delivery	Required resources	**Remarks**

Exhibit 4: Budget

[*Shall be taken from the application and shall include the detail of funding and expenses by each Party. No detail should appear on the expenses directly managed by the Artist*]

CO-PRODUCTION CONTRACT

x [*name*],[full *address*], hereinafter referred to as "Artist "
[*Must be a person; in case of several artists, one of them is the contractor*]

and

y [*project full partner name*], whose headquarters are located at [full *address*], hereinafter referred to as "Tech Project Partner"

and

z [*producer full partner name*], whose headquarters are located at [full *address*], hereinafter referred to as "Producer"

and INOVA+ – Innovation Services, S.A., whose headquarters are located at Rua Dr. Afonso Cordeiro 567, 4450-309 Matosinhos - PORTUGAL, hereinafter referred to as "VERTIGO / STARTS Residencies Partner",

hereinafter collectively referred to as "Parties" or individually as "Party".

Preamble and definitions

"VERTIGO" designates the Coordination and Support Action project of Grant Agreement N° 732112 supported by the European Commission under its H2020 Program. VERTIGO is in charge of managing the STARTS Residencies program managing artistic residencies with Tech projects. Together with the VERTIGO / STARTS Residencies Partner, the parties involved in the implementation of VERTIGO are the following and are hereinafter collectively referred as "Members of the VERTIGO Consortium":

- INSTITUT DE RECHERCHE ET COORDINATION ACOUSTIQUE/MUSIQUE (IRCAM), established 1 place Igor Stravinsky – F-75004 Paris, France
- ARTSHARE INVESTIGACAO TECNOLOGIA EARTE LDA**,** established in RUA QUINTA VELHA 249, ESTARREJA AVEIRO 3860 249, Portugal
- FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. (FHG), established in HANSASTRASSE 27C, MUNCHEN 80686, Germany
- ASSOCIATION CULTURE TECH., established in 20 RUE PORTAIL BOQUIER, AVIGNON 84000, France
- ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE (EPFL), 414110, established in BATIMENT CE 3316 STATION 1, LAUSANNE 1015, Switzerland
- LIBELIUM COMUNICACIONES DISTRIBUIDAS SOCIEDAD LIMITADA (LIBELIUM**)** SL, Z42864, established in INSTALACIONES CEEI - CALLE MARIA DE LUNA 11 NAVE 5, ZARAGOZA 50018, Spain

One of the main goals of VERTIGO is to support collaborations of artists with research and development projects in the field of Information and communication technologies ("ICT"), in particular in the framework of a program of artistic residencies. This program sets a collaboration framework of artists with partners of a Tech Project, aiming at producing an innovative artwork, based on the Tech Project technology. [optional: The hosting and organization of the residency is under the responsibility of a producer.]

"The Tech Project" designates a project in the field of ICT, supported by [Funding agency] ("Project Funding Body") under [grant agreement reference], in which the Tech Project Partner participates.
The other parties involved in the project are:

- Name, address
- Name address
- *Add as needed*

All the parties involved in the Tech Project are hereinafter collectively referred to as “Members of the Tech Project Consortium”

The Parties together with all the Members of the VERTIGO Consortium and all the Members of the Tech Project Consortium are hereinafter referred to individually as “Extended Party” and collectively as “Extended Parties”.

The Tech Project Partner guarantees that is has been mandated by the other Members of the Tech Project Consortium in order to represent them in the current contract and that it has been granted all necessary rights to do so.

VERTIGO has published on January 10, 2018 a call for artistic residencies (Call) with a selection of Tech Project, including the Tech Project, which has expressed interest in participating in the VERTIGO residencies program, on the basis of technological elements, hereinafter designated as “Technology”, described in Exhibit 1.

The Artist and the Producer have presented a joint application to the Call and have been selected by the international jury set up by VERTIGO.

Article 1 - Object

The object of the contract is to define the conditions of the residency ("Residency") of the Artist with the Tech Project, with the support of the Producer, in the framework of VERTIGO.

The goal of the Residency is twofold:

- The production of an original artwork ("Artwork"), based on the Technology, to be designed by the Artist and produced as part of the Residency, following the artistic project ("Artistic Project") presented in Exhibit 2.
- To be the framework of a collaboration between the Artist and the Tech Project, in order to elaborate new and innovative ideas about the Technology.

The execution of the Residency shall follow the workplan ("Workplan") described in Exhibit 3. The Workplan shall include at least two deadlines of delivery associated to a meeting between all the Parties, one at mid-term and the second at the end. Any change on the workplan shall be jointly agreed in advance in written and traceable form by all the Parties.

The mid-term deadline shall include a review involving all Parties and the production of a short video presenting the done work for the VERTIGO public dissemination

The final outcome of the Residency will include the delivery of the following elements:

- The Artwork ready for public exposure in cultural venues, which may be in the form of sketches or prototypes but preferably in the form of achieved works;
- A confidential report presenting the work done, the process followed for the execution of the residency in reference to its workplan, its outcomes, [and a financial annex presenting the incurred expenses by each Party in reference to the budget defined in Article 4]. The diffusion of the report will be restricted to the Parties, the VERTIGO/ STARTS Residencies partners, the Tech Project partners and the Project Funding Body;
- [If relevant depending on the nature of the Artwork] A technical documentation of the Artwork describing the setup necessary for implementing it;
- Public materials in English language presenting the main outcomes of the Residency: a video of 2 to 5 minutes and a 4 pages document at A4 format.

Article 2 – Scope and limits of the contract

The present contract does not create a joint-venture company and under no circumstances be considered as a holding between the parties. The responsibility of each Party is strictly limited to the conditions mentioned in this contract, particularly the conditions of take by each Party to any other third party.

Article 3 – Period of execution and termination

The starting date of the contract is: [*normally September 1st 2018, unless delayed start agreed by the Parties*].

The contract will end upon one of the following conditions:

- after delivery of all elements specified in Article 1 and final payment by the VERTIGO/ STARTS Residencies Partner. The foreseen date of completion is [XXX, should not be later than March 2020]
- in case of termination initiated by the VERTIGO/ STARTS Residencies Partner in the conditions specified in Article 7. In this case, no other payment will be due by the VERTIGO/ STARTS Residencies Partner to the Artist and all Parties give up any pursuit exercised against one or several other Parties for a direct or indirect damage incurred by the partial or total non-fulfillment of the measures of the present contract.

Article 4 – Budget, funding and payments

The total budget of the residency is: [*consolidated budget in euros*]. Its details are indicated in Exhibit 4.

It includes:

1. An amount of max 15.000€ to be paid by the VERTIGO/ STARTS Residencies Partner to the Artist as a global fee in counterpart of:

a. A commission for designing and producing the Artwork and a license granted by the Artist to the other Parties in order them to exploit elements of the Artwork as described in Article 5.

b. Expenses covered by the Artist for his/her participation in the Residency, including for travel, subsistence, purchase and delivery of goods and payment of third parties, and participation in VERTIGO / STARTS public events presenting the work (as presented using the proper form in Exhibit 5).

This amount will be paid to the Artist in 3 parts: An advance payment of 40% i.e. [XXX] at the signature of the current contract, 40% i.e. [YYY] after validation of the Residency mid-term assessment by the VERTIGO/ STARTS Residencies Partner and the remaining (up to 20%), i.e. [ZZZ] after the final assessment by the VERTIGO/ STARTS Residencies Partner and final validation of the expenses.

2. The Producer covers its own expenses.
3. The Tech Project covers its own expenses.

Article 5 – Intellectual Property and Exploitation

The copyright in the Artwork is and shall remain the property of the Artist as fixed in Portuguese Intellectual Property Law (*Código de Direito de Autor e dos Direitos Conexos*). The Artist certifies that he/she is the sole author of the Artwork, that this is an original work that does not copy other preexisting works. The Artist certifies that he/she has not already accepted nor will accept during the execution of the current contract any other agreement with a similar subject.

The Artist grants all the other Extended Parties a non-exclusive right to publicly present the Artwork and its related public documentation through their dissemination channels. These rights-of-use are granted for the legal duration of the author's rights or related rights or their rights holders, as governed by both Portuguese or foreign law, current or future, including possible extensions to this duration. These rights are applicable worldwide. The Artist certifies that he/she is the owner of the rights which he/she grants to the other Parties. The Artist guarantees to the Extended Parties the full use, clear of all claims, liens and encumbrances, of the rights granted in the current contract, and guarantees the Parties against any fraud, claim or eviction or counterfeit litigation.

The Tech Project Partner grants the other Extended Parties a non-exclusive right, applicable worldwide, to use the elements of the Tech Project Technology necessary for the Residency execution, until the end of the current contract. It grants them a non-exclusive right applicable worldwide to use the elements of the Tech Project Technology necessary for the operation of the Artwork at least three years after the end of the current contract. The Tech Project Partner guarantees to the other Parties its full ownership of the rights necessary for these purposes.

Any Extended Party presenting publicly the Artwork will take in charge without soliciting the other Parties the statements and the payment of author's rights and performers' rights fees to Royalties Collecting and Distributing Societies.

The Parties grant any Extended Party rights to carry out, or cause to be carried out, shootings and/or audiovisual recordings during the work periods, of all staff involved in the Residency.

The Parties authorize the concerned Extended Party to grant the right to reproduce, to use and to broadcast to the producer of the video recording.

They authorize the concerned Extended Party, on free basis, non-exclusive and for an unlimited time, the rights to use these pictures and/or video recordings in the following conditions:

- Promotional purposes;
- For information and advertising purposes in television or radio channels broadcasting for short sequences
- The promotional and advertising activities, and the non-commercial exploitations in which artists and technicians could appear will not be subject to any additional remuneration.

Any commercial use of these pictures and recordings must be object of a separate contract.

Article 6 – Publicity and Compulsory Credits

All Parties and their mandated third parties shall include, if possible, on each publication or communication (print and/or multimedia) related to the public presentation of the Artwork, the following mention:

"*Work designed by [Artist name] with the support of the VERTIGO project as part of the STARTS program of the European Commission, based on technological elements from the [Tech Project name], with the support of [Producer name]*" and include the logos of STARTS Residencies, STARTS, European Commission, and if they exist the logos of the Tech Project and of the Producer.

Article 7 - Rights and Obligations of the VERTIGO Partner

[Case 1 : VERTIGO/ STARTS Residencies Partner directly in charge of monitoring the residency execution]

The VERTIGO/ STARTS Residencies Partner will monitor the execution of the Residency, acknowledge receipt and validate the content of the planned deliverables and manage the related payments to the Artist with a maximum delay of 45 days after validation.
In case of any problem encountered in the execution of the Residency which prevents the execution of the planned workplan and its updates jointly agreed by all Parties, it may ask in written form the other Parties to take corrective actions within a maximum delay of two months; after this delay, based on his appreciation of the progress made, it may decide, in agreement with the relevant decisions bodies of VERTIGO/STARTS Residencies, to terminate the current contract with no delay.

[Case 2 : EPFL mandated by the VERTIGO/ STARTS Residencies Partner for monitoring the Residency execution]
The VERTIGO/ STARTS Residencies Partner will mandate a member of VERTIGO, Mr/Mrs XXX of EPFL ("Mandated VERTIGO/ STARTS Residencies Partner" to monitor the execution of the Residency, acknowledge receipt and validate the content of the planned deliverables. The VERTIGO/ STARTS Residencies Partner will manage the related payments to the Artist with a maximum delay of 45 days after validation by the Mandated VERTIGO/ STARTS Residencies Partner.
In case of any problem encountered in the execution of the Residency which prevents the execution of the planned workplan and its updates jointly agreed by all Parties, the VERTIGO/ STARTS Residencies Partner may ask in written form the other Parties to take corrective actions within a maximum delay of two months; after this delay, based on his appreciation of the progress made, it may decide, in agreement with the relevant decisions bodies of VERTIGO/STARTS Residencies, to terminate the current contract with no delay.]

Article 8 - Rights and Obligations of the Artist
All Parties acknowledge that the Artist will remain the sole author of the Artwork and shall keep all freedom of decision and choice for its design.
The Artist will be the main Party in charge of the execution of the Workplan, with the assistance of the Tech Project and the Producer. He/she undertakes to make his/her best efforts to assure the success of the Residency. He/she also commits in contributing to its public communication through the dissemination channels of the other Parties.

Article 9 - Rights and Obligations of the ICT R&D Project Partner
The Tech Project Partner will provide the Artist with the elements of the Technology in the forms and at deadlines conformant to the workplan and will assist him/her in documenting the Technology. It will also provide the Artist with the foreseen hosting infrastructure and resources. It undertakes to make its best efforts to assure the success of the Residency.
The Tech Project Partner will coordinate the exchanges between the Parties and the other participants of the Tech Project, including the organization of the participation of the Artist in the Tech Project innovation and dissemination activities.

[Optional] Article 10 - Rights and Obligations of the Producer
The Producer will be in charge of the overall coordination of the Artwork production process and of the allocation of relevant means and staff. It will provide the Artist with all relevant conditions of hosting and technical infrastructure necessary for the production of the Artwork. It undertakes to make its best efforts to assure the success of the Residency.
The Producer will have the full power of decision on the expenses of the budget it manages.
The Producer will keep separate accounts of expenses and receipts concerning the Artwork production. It will control the accounting of the sums to pay as reported in the attached budget. All of the documents, accounting vouchers and other supporting documents related to the Residency have to be kept available for the VERTIGO/ STARTS Residencies Partner who will have access upon request.

Article 11 – Disclosure of Information
All information in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to any other Party (the "Recipient") in connection with the current contract during its implementation and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as

confidential at the time of disclosure and has been confirmed and designated in writing within 15 calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is “Confidential Information”.
The Recipients hereby undertake in addition and without prejudice to any commitment of non-disclosure under the Grant Agreement, for a period of 4 years after the end of the Project:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information to any third party without the prior written consent by the Disclosing Party;
- to ensure that internal distribution of Confidential Information by a Recipient shall take place on a strict need-to-know basis; and
- to return to the Disclosing Party on demand all Confidential Information which has been supplied to or acquired by the Recipients including all copies thereof and to delete all information stored in a machine-readable form. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable laws and regulations or for the proof of on-going obligations.

The Recipients shall be responsible for the fulfillment of the above obligations on the part of their employees or third parties involved in the contract and shall ensure that they remain so obliged, as far as legally possible, during and after the end of the contract and/or after the termination of the contractual relationship with the employee or third party.
The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information becomes publicly available by means other than a breach of the Recipient’s confidentiality obligations;
- the Disclosing Party subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of confidence by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidence to the Disclosing Party;
- the disclosure or communication of the Confidential Information is foreseen by provisions of the Grant Agreement;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Party; or
- the Confidential Information was already known to the Recipient prior to disclosure or
- the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order

Article 12 - Insurances
All Parties shall take out adequate insurance to all risks for the equipment they will bring respectively into the execution of the Residency and for the staff they have respectively hired, including for travels.

Article 13 – Force Majeure
This Agreement will be revoked as of right and without compensation of any kind in all cases of force majeure recognized by the law and case law (natural disaster, strike, national mourning, riots, terrorism acts, war, epidemic, etc).

Article 14 – Attribution of Jurisdiction
In case of any dispute concerning the execution of this contract, the partners agree to submit to the Court of Matosinhos, Portugal

Article 15 – Governing Law
This Agreement is governed by Portuguese Law.

Done in XXX, in Y original copies

Exhibit 1: Tech Project Technology description

[To be completed from Call for Residencies]

Exhibit 2. The Artistic Project

Exhibit 3: Workplan of the Residency

[*The workplan shall be an updated version of the one submitted by the Artist in the Call, discussed and agreed by all Parties.*
It should include at least:

- *a decomposition into tasks associated to periods of work, with their objectives and expected delivery, place of execution, participants and their respective roles; the inclusion in this workplan of*
- *the description of the technical approach, including the hardware and software elements to be integrated and/or developed for producing the Artwork, and roles of the Parties in bringing/developing these elements;*
- *the means of communication between partners, including the implementation of self-reporting methods and the definition of decision-making rules;*
- *the two deadlines and their deliveries mentioned in Article 1*]

Task Description	Parties involved	Place of execution	Expected outcomes	Periods of work	Expected delivery	Required resources	**Remarks**

Exhibit 4: Budget

[*Shall be taken from the application and shall include the detail of funding and expenses by each Party*]

Exhibit 5: Expenses Form

Artist Details

Name of the Artist	
E-mail/Telephone	
City and Country (residence)	

Residency Details

Name of the Residency	
Period of Implementation	
Main Locations of Residency	

Artist Participation

Period of report	
Number of days worked	
Brief description of work performed	

Residency Expenses

Please complete the following headings with the total cost per type of cost. **You must attach to this document copies of the invoices/tickets of all costs that you are presenting on the headings; and send it by email to** ana.leal@inova.business. **Original signed form and associate documents should be delivered to the Vertigo / STARTS Residencies partner at the interim/closure meeting of your residency.**

All costs shall be presented in Euros

Artist's Fee		
Travel Costs (boarding passes/travel tickets are mandatory)	**Flight**	
	Train	
	Bus	
Accommodation & living expenses		
Other – please specify		
Total costs		

I, (name of artist), certify that I worked for the above Residency during the reporting period, as described above, and that the costs presented in this form are related to the work performed.

Signature of the Artist **Location / Date**

Communication

« 3 questions to the artist »

Written answers (max 100 words each)

This will be post on the Website with a photo from the Inception Meeting

- Can you introduce yourself?

- Can you present your project X (name of the residency)?

- What do you expect from this residency?

Internal Monitoring

Residency name:

Monitoring Partner:

According to you (monitoring partner) what are:

- The strength of this residency?
- The weakness of this residency?
- The opportunities for this residency?
- The threats of this residency?
- Free comment:

SEMI STRUCTURED Interviews

Inception Meeting

BACKGROUND

The VERTIGO quali-quantitative evaluation methodology responds to the necessity to provide synthetic information about the projects and, at the same time, create a narration about it, "tell a story" about the activities developed, the results achieved and the lessons learned.

Qualitative data is gathered in order to reach an in-deeper comprehension of the reality presented. Qualitative analysis seeks the widest possible range of behaviours bringing out the meaning that actors attribute to their own conduct and the great principles and social mechanisms at work.

A semi-structured interview is a qualitative method of inquiry that combines a pre-determined set of open questions (questions that prompt discussion) with the opportunity for the interviewer to explore particular themes or responses further.

Semi-structured interviews offer topics and questions to the respondent, but are carefully designed to elicit the respondent's ideas and opinions on the topic of interest, as opposed to leading the respondent toward preconceived choices.

GUIDELINES

- The interviewer establishes a relaxed, comfortable climate and provide an overview of the interview purpose, intended uses of the interview data, and the measures taken to protect confidentiality.
- The interviewer uses the 'interview guide'. This is a list of questions and topics that need to be covered during the conversation.
- The interviewer follows the guide, but is able to follow topical trajectories in the conversation that may stray from the guide when he or she feels this is appropriate.

On style:

- Try not to be leading in your questioning. For example, ask "What did you mean when you said…." rather than "When you said…did you mean….?"
- Many respondents talk in generalities, so use probes such as "Can you give me an example

of that?"

- Sometimes silence is the best probe. Being silent once respondents pause can encourage them to continue.
- You may want to avoid interrupting a good story and instead make a note to probe a particular point later in the interview.
- When to end the interview? When you feel to have exhausted your questions. A good practice is for the interviewer to summarise the key points that they feel the respondent has provided, as this provides the respondent with a final chance to expand or clarify any points.

On practicalities:

- Tape-record the interviews. Since semi-structured interviews often contain open-ended questions and discussions may diverge from the interview guide, it is generally best to tape-record interviews and later transcript these tapes for analysis. While it is possible to try to joint notes to capture respondents' answers, it is difficult to focus on conducting an interview and jotting notes.
  - ⊗ If tape-recording an interview is out of the question, consider having a note-taker present during the interview.
  - ⊗ Get permission for tape recording or note-taking.
- Keep it as short as possible (between 20-30 minutes)
- Upload the tape recordings and/or notes in the cloud after the interview completion at the shortest delay. Analysis of contents will be managed by ARTSHARE and reported in M12, M24 and M36, when deliverables on monitoring (D6.3,4,5) will be produced.

INTERVIEW – Inception Meeting

Semi-structured interviews shall be conducted separately with the two main actors of VERTIGO STARTS residency: the artist and Tech project contact person. The interview can take place at the inception meeting or through a separate conference call (in this case it is to be conducted preferably before the inception meeting).

Interview Guide

Artist(s)

Motivation and expectations

- How did you find out about the VERTIGO STARTS residency opportunity?
- What was your main motivation for applying as an artist to the VERTIGO STARTS residency program? What makes you want to work with technology, engineers?
- What was your main motivation for applying as an artist in residence for this specific Tech project?
- Did you already collaborate with Engineers/scientists? How did it work?
- What do you think are the societal challenges of this project?
- What are your main expectations for your residency?

Working process

- How do you expect to work during this residency?
- What will be the most productive way to exchange ideas and co-create with the Tech team during the residency?
- What do you expect from the Producer? From the Vertigo Partner?
- What are your biggest hopes and fears regarding the co-creation process?

After the residency

- How do you think that your artistic input can change the perspective of the research conducted in the Tech project?
- What are you expecting the artwork outcome of the residency to be?
- What would failure look like for the residency?

Summary

- How would you describe this residency in just 3 words?

Residency Minute

Residency name:

Monitoring Partner:

Place:

DAY, DATE, MONTH, From 00:00 am to 0:00 pm

Name	Position
	Monitoring Partner

Guidelines:

- Presentation of STARTS, STARTS Residencies, the Artist, the Tech Project, the Producer, the residency proposal.
- Finalization of the Action Plan and Budget if needed. Signature of contracts.
- Presentation of the documents that need to be delivered during and at the end of the residency.
- Presentation of the "communication duties" that the residency will have to fulfil (blog, picture, video)
- D interviews A and B separately using the semi-structured interview guide.
- Conclusion of the inception meeting, potential scheduling of online meetings and mid-term meeting.

Meeting report:

Write here the minute of the meeting.

SEMI STRUCTURED Interviews

Inception Meeting

BACKGROUND

The VERTIGO quali-quantitative evaluation methodology responds to the necessity to provide synthetic information about the projects and, at the same time, create a narration about it, "tell a story" about the activities developed, the results achieved and the lessons learned.

Qualitative data is gathered in order to reach an in-deeper comprehension of the reality presented. Qualitative analysis seeks the widest possible range of behaviours bringing out the meaning that actors attribute to their own conduct and the great principles and social mechanisms at work.

A semi-structured interview is a qualitative method of inquiry that combines a pre-determined set of open questions (questions that prompt discussion) with the opportunity for the interviewer to explore particular themes or responses further.

Semi-structured interviews offer topics and questions to the respondent, but are carefully designed to elicit the respondent's ideas and opinions on the topic of interest, as opposed to leading the respondent toward preconceived choices.

GUIDELINES

- The interviewer establishes a relaxed, comfortable climate and provide an overview of the interview purpose, intended uses of the interview data, and the measures taken to protect confidentiality.
- The interviewer uses the 'interview guide'. This is a list of questions and topics that need to be covered during the conversation.
- The interviewer follows the guide, but is able to follow topical trajectories in the conversation that may stray from the guide when he or she feels this is appropriate.

On style:

- Try not to be leading in your questioning. For example, ask "What did you mean when you said…." rather than "When you said…did you mean….?"
- Many respondents talk in generalities, so use probes such as "Can you give me an example

of that?"

- Sometimes silence is the best probe. Being silent once respondents pause can encourage them to continue.
- You may want to avoid interrupting a good story and instead make a note to probe a particular point later in the interview.
- When to end the interview? When you feel to have exhausted your questions. A good practice is for the interviewer to summarise the key points that they feel the respondent has provided, as this provides the respondent with a final chance to expand or clarify any points.

On practicalities:

- Tape-record the interviews. Since semi-structured interviews often contain open-ended questions and discussions may diverge from the interview guide, it is generally best to tape-record interviews and later transcript these tapes for analysis. While it is possible to try to joint notes to capture respondents' answers, it is difficult to focus on conducting an interview and jotting notes.
  - ⊗ If tape-recording an interview is out of the question, consider having a note-taker present during the interview.
  - ⊗ Get permission for tape recording or note-taking.
- Keep it as short as possible (between 20-30 minutes)
- Upload the tape recordings and/or notes in the cloud after the interview completion at the shortest delay. Analysis of contents will be managed by ARTSHARE and reported in M12, M24 and M36, when deliverables on monitoring (D6.3,4,5) will be produced.

INTERVIEW – Inception Meeting

Semi-structured interviews shall be conducted separately with the two main actors of VERTIGO STARTS residency: the artist and Tech project contact person. The interview can take place at the inception meeting or through a separate conference call (in this case it is to be conducted preferably before the inception meeting).

Interview Guide

Tech project

Motivation and expectations

- How did you find out about the VERTIGO STARTS residency opportunity?
- What was your main motivation for applying as a candidate project to host an artistic residency? What makes you want to work with an artist?
- Did you already collaborate with Artists, even hosted an Artist? How did it work?
- What are the societal challenges faced by your project?
- What are your main expectations regarding the residency?

Working process

- What will be the most productive way to exchange ideas and co-create with the artist during the residency?
- What do you expect from the Producer? From the Vertigo Partner?
- What are your biggest hopes and fears regarding the co-creation process?

After the residency

- What kind of contribution to your research do you expect from the collaboration with the artist?
- What would failure look like for the residency?

Summary

- How would you describe this residency in just 3 words?

Internal Monitoring

Residency name:

Monitoring Partner:

According to you (monitoring partner) what are:

- The strength of this residency?
- The weakness of this residency?
- The opportunities for this residency?
- The threats of this residency?
- Free comment:

Residency Minute

Residency name:

Monitoring Partner:

Place:

DAY, DATE, MONTH, From 00:00 am to 0:00 pm

Name	Position
	Monitoring Partner

Guidelines:

- Presentation of the progress of the residency
- Discussion on potential adjustments, improvements, changes
- Update of the Work-Plan
- Viewing of the mid-term video
- D reminds to A, B and C the expected outcomes and present the available templates.

Meeting report:

Write here the minute of the meeting.

Updated Workplan & Budget

Residency name:

Monitoring Partner:

Workplan:

Only modification or update from the initial coproduction contract should appear here.

The workplan shall be an updated version of the one available on the coproduction contract signed by all Parties.

It should include at least:

- a decomposition into tasks associated to periods of work, with their objectives and expected delivery, place of execution, participants and their respective roles
- the description of the technical approach, including the hardware and software elements to be integrated and/or developed for producing the Artwork, and roles of the Parties in bringing/developing these elements;
- the means of communication between partners, including the implementation of self-reporting methods and the definition of decision-making rules;
- the two deadlines and their deliveries mentioned in Article 1

Task Description	Parties involved	Place of execution	Expected outcomes	Periods of work	Expected delivery	Required resources	**Remarks**

Budget:

Only modification or update from the initial coproduction contract should appear here.

Internal Monitoring

Residency name:

Monitoring Partner:

According to you (monitoring partner) what are:

- The strength of this residency?
- The weakness of this residency?
- The opportunities for this residency?
- The threats of this residency?
- Free comment:

Residency Minute

Residency name:

Monitoring Partner:

Place:

DAY, DATE, MONTH, From 00:00 am to 0:00 pm

Name	Position
	Monitoring Partner

Guidelines:

- Conclusion of the Residency, global review of the residency
- Collect of the closure documents (artwork description, confidential report, public report, public video)
- Presentation of the feedback survey to be filled by all partners after the closure meeting

Meeting report:

Write here the minute of the meeting.

Updated Workplan & Budget

Residency name:

Monitoring Partner:

Workplan:

Only modification or update from the initial coproduction contract should appear here.

The workplan shall be an updated version of the one available on the coproduction contract signed by all Parties.

It should include at least:

- a decomposition into tasks associated to periods of work, with their objectives and expected delivery, place of execution, participants and their respective roles
- the description of the technical approach, including the hardware and software elements to be integrated and/or developed for producing the Artwork, and roles of the Parties in bringing/developing these elements;
- the means of communication between partners, including the implementation of self-reporting methods and the definition of decision-making rules;
- the two deadlines and their deliveries mentioned in Article 1

Task Description	Parties involved	Place of execution	Expected outcomes	Periods of work	Expected delivery	Required resources	**Remarks**

Budget:

Only modification or update from the initial coproduction contract should appear here.

STARTS Residency Private Report
Residency name

First A. Author, Second B. Author, Jr., and Third C. Author

Abstract (The abstract should not exceed 250 words.)

***Index Terms*—About five keywords or phrases in alphabetical order, separated by commas**

I. INTRODUCTION

STARTS will do the final formatting of your paper. Your paper should target 4 pages but this is not mandatory and it can be as long as 6 pages.

II. PART

Insert here your content.

III. CONCLUSION

A. Concluding Remarks

Please send to your STARTS Residency monitor, your article both in word format and in pdf, via email.

B. Final Stage

Also, send a sheet of paper or PDF with complete contact information for all authors. Include full mailing addresses, telephone numbers, fax numbers, and e-mail addresses. This information will be used to send each author a complimentary copy of a possible publication in which the paper appears. In addition, designate one author as the "corresponding author." This is the author to whom proofs of the paper will be sent. Proofs are sent to the corresponding author only.

C. Figures

Format and save your graphic images using a suitable graphics processing program that will allow you to create the images as PostScript (PS), Encapsulated PostScript (EPS), or Tagged Image File Format (TIFF), sizes them, and adjusts the resolution settings. If you created your source files in one of the following you will be able to submit the graphics without converting to a PS, EPS, or TIFF file: Microsoft Word, Microsoft PowerPoint, Microsoft Excel, or Portable Document Format (PDF).

D. Electronic Image Files (Optional)

Import your source files in one of the following: Microsoft Word, Microsoft PowerPoint, Microsoft Excel, or Portable Document Format (PDF); you will be able to submit the graphics without converting to a PS, EPS, or TIFF files. Image quality is very important to how yours graphics will reproduce. Even though we can accept graphics in many formats, we cannot improve your graphics if they are poor quality when we receive them. If your graphic looks low in quality on your printer or monitor, please keep in mind that cannot improve the quality after submission.

If you are importing your graphics into this Word template, please use the following steps:

Under the option EDIT select PASTE SPECIAL. A

Manuscript received September 9, 2018. (Write the date on which you submitted your paper for review.) This work was supported in part by the European Commission through the Coordination and Support Action VERTIGO STARTS Residencies: "Adding socio-economic value to industry through the integration of artists in research and open innovation processes." under EC Grant 732112 (sponsor and financial support acknowledgment goes here). Paper titles should be written in uppercase and lowercase letters, not all uppercase. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "Nd–Fe–B"). Do not write "(Invited)" in the title. Full names of authors are preferred in the author field, but are not required. Put a space between authors' initials.

F. A. Author is with the National Institute of Standards and Technology, Boulder, CO 80305 USA (corresponding author to provide phone: 303-555-5555; fax: 303-555-5555; e-mail: author@ boulder.nist.gov).

S. B. Author, Jr., was with Rice University, Houston, TX 77005 USA. He is now with the Department of Physics, Colorado State University, Fort Collins, CO 80523 USA (e-mail: author@lamar.colostate.edu).

T. C. Author is with the Electrical Engineering Department, University of Colorado, Boulder, CO 80309 USA, on leave from the National Research Institute for Metals, Tsukuba, Japan (e-mail: author@nrim.go.jp).

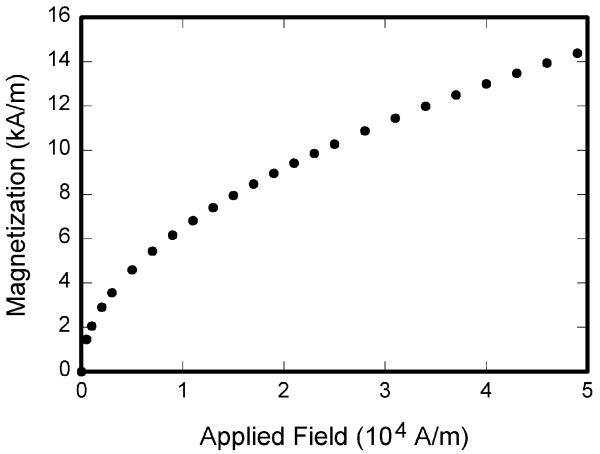

Fig. 1. Magnetization as a function of applied field. Note that "Fig." is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

dialog box will open, select paste picture, then click OK. Your figure should now be in the Word Document.

If you are preparing images in TIFF, EPS, or PS format, note the following. High-contrast line figures and tables should be prepared with 600 dpi resolution and saved with no compression, 1 bit per pixel (monochrome), with file names in the form of "fig3.tif" or "table1.tif."

Photographs and grayscale figures should be prepared with 300 dpi resolution and saved with no compression, 8 bits per pixel (grayscale).

Sizing of Graphics

Most charts graphs and tables are one column wide (3 1/2 inches or 21 picas) or two-column width (7 1/16 inches, 43 picas wide). We recommend that you avoid sizing figures less than one column wide, as extreme enlargements may distort your images and result in poor reproduction. Therefore, it is better if the image is slightly larger, as a minor reduction in size should not have an adverse affect the quality of the image.

Size of Author Photographs

The final printed size of an author photograph is exactly 1 inch wide by 1 1/4 inches long (6 picas × 7 1/2 picas). Please ensure that the author photographs you submit are proportioned similarly. If the author's photograph does not appear at the end of the paper, then please size it so that it is proportional to the standard size of 1 9/16 inches wide by 2 inches long (9 1/2 picas × 12 picas). JPEG files are only accepted for author photos.

IV. Helpful Hints

A. Figures and Tables

Because STARTS will do the final formatting of your paper, you do not need to position figures and tables at the top and bottom of each column. In fact, all figures, figure captions, and tables can be at the end of the paper. Large figures and tables may span both columns. Place figure captions below the figures; place table titles above the tables. If your figure has two parts, include the labels "(a)" and "(b)" as part of the artwork. Please verify that the figures and tables you mention in the text actually exist. **Please do not include captions as part of the figures. Do not put captions in "text boxes" linked to the figures. Do not put borders around the outside of your figures.** Use the abbreviation "Fig." even at the beginning of a sentence. Do not abbreviate "Table." Tables are numbered with Roman numerals.

B. References

Number citations consecutively in square brackets [1]. The sentence punctuation follows the brackets [2]. Multiple references [2], [3] are each numbered with separate brackets [1]–[3]. When citing a section in a book, please give the relevant page numbers [2]. In sentences, refer simply to the reference number, as in [3]. Do not use "Ref. [3]" or "reference [3]" except at the beginning of a sentence: "Reference [3] shows ... ." Please do not use automatic endnotes in *Word*, rather, type the reference list at the end of the paper using the "References" style.

Number footnotes separately in superscripts (Insert | Footnote).[1] Place the actual footnote at the bottom of the column in which it is cited; do not put footnotes in the reference list (endnotes). Use letters for table footnotes (see Table I).

Please note that the references at the end of this document are in the preferred referencing style. Give all authors' names; do not use "*et al*." unless there are six authors or more. Use a space after authors' initials. Papers that have not been published should be cited as "unpublished" [4]. Papers that have been accepted for publication, but not yet specified for an issue should be cited as "to be published" [5]. Papers that have been submitted for publication should be cited as "submitted for publication" [6]. Please give affiliations and addresses for private communications [7].

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are unavoidable (for example, “IEEE” in the title of this article).

D. Other Recommendations

Use one space after periods and colons. Hyphenate complex modifiers: “zero-field-cooled magnetization.” Avoid dangling participles, such as, “Using (1), the potential was calculated.” [It is not clear who or what used (1).] Write instead, “The potential was calculated by using (1),” or “Using (1), we calculated the potential.”

Use a zero before decimal points: “0.25,” not “.25.” Use “cm^3,” not “cc.” Indicate sample dimensions as “0.1 cm × 0.2 cm,” not “0.1 × 0.2 cm^2.” The abbreviation for “seconds” is “s,” not “sec.” Do not mix complete spellings and abbreviations of units: use “Wb/m^2” or “webers per square meter,” not “webers/m^2.” When expressing a range of values, write “7 to 9” or “7-9,” not “7~9.”

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If you wish, you may write in the first person singular or plural and use the active voice (“I observed that ...” or “We observed that ...” instead of “It was observed that ...”). Remember to check spelling. If your native language is not English, please get a native English-speaking colleague to carefully proofread your paper.

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First A. Author (M’76–SM’81–F’87) and the other authors may include biographies at the end of regular papers. Biographies are often not included in conference-related papers. This author became a Member (M) of IEEE in 1976, a Senior Member (SM) in 1981, and a Fellow (F) in 1987. The first paragraph may contain a place and/or date of birth (list place, then date). Next, the author’s educational background is listed. The degrees should be listed with type of degree in what field, which institution, city, state, and country, and year degree was earned. The author’s major field of study should be lower-cased.

The second paragraph uses the pronoun of the person (he or she) and not the author’s last name. It lists military and work experience, including summer and fellowship jobs. Job titles are capitalized. The current job must have a location; previous positions may be listed without one. Information concerning previous publications may be included. Try not to list more than three books or published articles. The format for listing publishers of a book within the biography is: title of book (city, state: publisher name, year) similar to a reference. Current and previous research interests end the paragraph.

The third paragraph begins with the author’s title and last name (e.g., Dr. Smith, Prof. Jones, Mr. Kajor, Ms. Hunter). List any memberships in professional societies other than the IEEE. Finally, list any awards and work for IEEE committees and publications. If a photograph is provided, the biography will be indented around it. The photograph is placed at the top left of the biography. Personal hobbies will be deleted from the biography.

STARTS Residency Public Report
Residency name

First A. Author, Second B. Author, Jr., and Third C. Author

Abstract (The abstract should not exceed 250 words. It should briefly summarize the essence of the paper and address the following points.): **Artwork**: Briefly present the Artwork, including relevant background, in language accessible to a general audience. **Proposed Methods and Procedures**: Methodology used to produce the Artwork. **Co-creation process**: Describe the functional aspects of the residency and the role of each partner, including resources, communication and production means. **Impact**: How the residency impacts both parties. **Art-science relationships**: Place your collaboration in the general framework of art-science relationships. **Future Direction and Actions**: What are the next steps after the STARTS Residency program. Detailed discussion of these aspects should be provided in the main body of the paper.

***Index Terms*—About five keywords or phrases in alphabetical order, separated by commas**

Note: There should be no nonstandard abbreviations, acknowledgments of support, references or footnotes in the abstract.

I. INTRODUCTION

THE Introduction should define the area addressed by the Challenge and its significance, including the factors leading to the development of the issue.

This document is a template for Microsoft *Word* versions 6.0 or later.

When you open Template.doc, select “Page Layout” from the “View” menu in the menu bar which allows you to see the footnotes. Then, type over sections of Template.doc or cut and paste from another document and use markup styles. The pull-down style menu is at the left of the Formatting Toolbar at the top of your *Word* window (for example, the style at this point in the document is “Text”). Highlight a section that you want to designate with a certain style, then select the appropriate name on the style menu. The style will adjust your fonts and line spacing. **Do not change the font sizes or line spacing to squeeze more text into a limited number of pages.** Use italics for emphasis; do not underline.

To insert images in *Word,* position the cursor at the insertion point and either use Insert | Picture | From File or copy the image to the Windows clipboard and then Edit | Paste Special | Picture (with “float over text” unchecked).

STARTS will do the final formatting of your paper. Your paper should target 4 pages but this is not mandatory and it can be as long as 6 pages.

II. ARTWORK

Present the Artwork, including relevant background, in language accessible to a general audience. Define the goals of the residency and the main outcomes.

III. METHODOLOGY

Methodology used to produce the Artwork.

Manuscript received September 9, 2018. (Write the date on which you submitted your paper for review.) This work was supported in part by the European Commission through the Coordination and Support Action VERTIGO STARTS Residencies: “Adding socio-economic value to industry through the integration of artists in research and open innovation processes.” under EC Grant 732112 (sponsor and financial support acknowledgment goes here). Paper titles should be written in uppercase and lowercase letters, not all uppercase. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "Nd–Fe–B"). Do not write “(Invited)” in the title. Full names of authors are preferred in the author field, but are not required. Put a space between authors’ initials.

F. A. Author is with the National Institute of Standards and Technology, Boulder, CO 80305 USA (corresponding author to provide phone: 303-555-5555; fax: 303-555-5555; e-mail: author@ boulder.nist.gov).

S. B. Author, Jr., was with Rice University, Houston, TX 77005 USA. He is now with the Department of Physics, Colorado State University, Fort Collins, CO 80523 USA (e-mail: author@lamar.colostate.edu).

T. C. Author is with the Electrical Engineering Department, University of Colorado, Boulder, CO 80309 USA, on leave from the National Research Institute for Metals, Tsukuba, Japan (e-mail: author@nrim.go.jp).

IV. CO-CREATION PROCESS

Describe the functional aspects of the residency and the role of each partner, including resources, communication and production means.

V. IMPACT

How the residency impacts both parties.

A. Research Impact

Explain how the innovation could impact practice and ultimately improve Tech Project outcomes.

B. Artistic Impact

Explain how the innovation could impact practice and ultimately improve artistic outcomes.

VI. ART-SCIENCE INTER-RELATIONSHIPS

Place your collaboration in the general framework of art-science relationships.

VII. FUTURE DIRECTION AND ACTIONS

What are the next steps after the STARTS Residency program?

VIII. CONCLUSION

A. Concluding Remarks

Please send to your STARTS Residency monitor, your article both in word format and in pdf, via email.

B. Final Stage

Also, send a sheet of paper or PDF with complete contact information for all authors. Include full mailing addresses, telephone numbers, fax numbers, and e-mail addresses. This information will be used to send each author a complimentary copy of a possible publication in which the paper appears. In addition, designate one author as the "corresponding author." This is the author to whom proofs of the paper will be sent. Proofs are sent to the corresponding author only.

C. Figures

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If you are importing your graphics into this Word template, please use the following steps:

Under the option EDIT select PASTE SPECIAL. A dialog box will open, select paste picture, then click OK. Your figure should now be in the Word Document.

If you are preparing images in TIFF, EPS, or PS format, note the following. High-contrast line figures and tables should be prepared with 600 dpi resolution and saved with no compression, 1 bit per pixel (monochrome), with file names in the form of "fig3.tif" or "table1.tif."

Photographs and grayscale figures should be prepared with 300 dpi resolution and saved with no compression, 8 bits per pixel (grayscale).

Sizing of Graphics

Most charts graphs and tables are one column wide (3 1/2 inches or 21 picas) or two-column width (7 1/16 inches, 43 picas wide). We recommend that you avoid sizing figures less than one column wide, as extreme enlargements may distort your images and result in poor reproduction. Therefore, it is better if the image is slightly larger, as a minor reduction in size should not have an adverse affect the quality of the image.

Size of Author Photographs

The final printed size of an author photograph is exactly 1 inch wide by 1 1/4 inches long (6 picas × 7 1/2 picas). Please ensure that the author photographs you submit are proportioned similarly. If the author's photograph does not appear at the end of the paper, then please size it so that it is proportional to the standard size of 1 9/16 inches wide by 2 inches long (9 1/2 picas × 12 picas). JPEG files are only accepted for author photos.

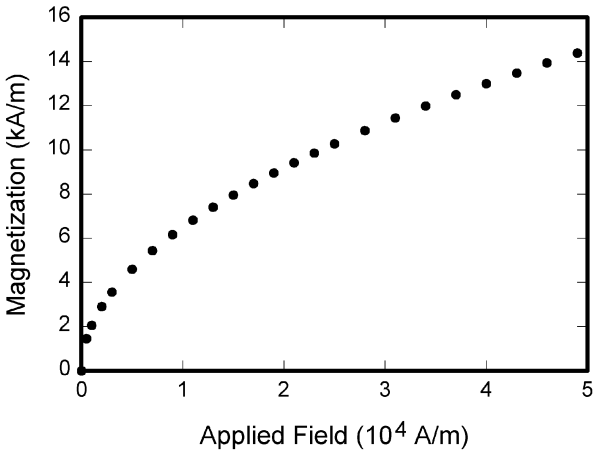

Fig. 1. Magnetization as a function of applied field. Note that "Fig." is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

IX. Helpful Hints

A. Figures and Tables

Because STARTS will do the final formatting of your paper, you do not need to position figures and tables at the top and bottom of each column. In fact, all figures, figure captions, and tables can be at the end of the paper. Large figures and tables may span both columns. Place figure captions below the figures; place table titles above the tables. If your figure has two parts, include the labels "(a)" and "(b)" as part of the artwork. Please verify that the figures and tables you mention in the text actually exist. **Please do not include captions as part of the figures. Do not put captions in "text boxes" linked to the figures. Do not put borders around the outside of your figures.** Use the abbreviation "Fig." even at the beginning of a sentence. Do not abbreviate "Table." Tables are numbered with Roman numerals.

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First A. Author (M'76–SM'81–F'87) and the other authors may include biographies at the end of regular papers. Biographies are often not included in conference-related papers. This author became a Member (M) of IEEE in 1976, a Senior Member (SM) in 1981, and a Fellow (F) in 1987. The first paragraph may contain a place and/or date of birth (list place, then date). Next, the author's educational background is listed. The degrees should be listed with type of degree in what field, which institution, city, state, and country, and year degree was earned. The author's major field of study should be lower-cased.

The second paragraph uses the pronoun of the person (he or she) and not the author's last name. It lists military and work experience, including summer and fellowship jobs. Job titles are capitalized. The current job must have a location; previous positions may be listed without one. Information concerning previous publications may be included. Try not to list more than three books or published articles. The format for listing publishers of a book within the biography is: title of book (city, state: publisher name, year) similar to a reference. Current and previous research interests end the paragraph.

The third paragraph begins with the author's title and last name (e.g., Dr. Smith, Prof. Jones, Mr. Kajor, Ms. Hunter). List any memberships in professional societies other than the IEEE. Finally, list any awards and work for IEEE committees and publications. If a photograph is provided, the biography will be indented around it. The photograph is placed at the top left of the biography. Personal hobbies will be deleted from the biography.

Artwork presentation

Residency name:

Artist:

General presentation of the artwork:

(Description, pictures… usable for communication and dissemination purposes)

Technical set-up:

(Schemes, technical descriptions, set-up guide, transport requirements, provided and needed resources… usable for production, dissemination and exhibition purposes)

Artist Feedback

This questionnaire will be used by the STARTS team to assess the VERTIGO STARTS Residencies programme. Thank you for filling in this form in its word format. There is no limitation on the number of words/lines used for each question. Please send it back to your STARTS monitor and feel free to send any suggestion to Greg Beller - beller@ircam.fr

Results and outcomes

This part is dedicated to your feedback on the outcomes of the residency.

- Is the artwork as you imagined?
- How many of your objectives were reached thank to the residency?
- Are the results worth the effort / resources?
- What is the best return on investment?
- How this residency will impact your future projects?
- Are there opportunities for future collaborations after the residency?
- How much visibility did you gain from the residency?
- How many people could be impacted by the outcomes of the residency?
- Free comment:

Co-Creation Process

This part is dedicated to your feedback on the implementation of the residency.

- How many people worked actively on the co-creation process?
- How much did you feel dedicated to the collaboration?
- How much was your partner dedicated to the collaboration?
- How would you describe your relationship with your partner?

- How complementary are you?
- Could you do what you did without your partner?
- What communication channels did you use? For what purposes?
- How did the physical distance impact the co-creation process?
- Would you have preferred to spend more time with the team?
- Was the period of the residency enough to accomplish the action plan?
- Were the rhythms of the artwork creation and of the tech developments compatible?
- Was the access to the producing means, facilities easy?
- Where the resources available suitable for the implementation of the action plan?
- What worked well/bad in the co-creation process?
- How do you assess the support from the STARTS Team?
- Do you think the Residencies programme is properly scaled and thought?
- Free comment

Art-Tech Interaction

This part is dedicated to your feedback on the interactions between art and science

- Did your partner take enough time to introduce you to its culture?
- Did you feel lost in the technical language of your partner?
- Did you define a glossary of words or use other specific means for better common understanding?
- What did you learn from the residency?
- Did the partner affect your creative process?
- Was there enough room for experimentation?
- What new ideas were generated through/thanks to the co-creation?
- Did ideas / solutions pop out of unexpected situations, in unexpected ways?
- What features of this residency are good examples of art-science collaborations?
- Free comment

Additional comment and feedback

Producer Feedback

This questionnaire will be used by the STARTS team to assess the VERTIGO STARTS Residencies programme. Thank you for filling in this form in its word format. There is no limitation on the number of words/lines used for each question. Please send it back to your STARTS monitor and feel free to send any suggestion to Greg Beller - beller@ircam.fr

Results and outcomes

This part is dedicated to your feedback on the outcomes of the residency.

- Is the artwork as you imagined?
- How many of your objectives were reached thank to the residency?
- Are the results worth the effort / resources?
- What is, for you, the best return on investment?
- How this residency will impact your future projects?
- Are there opportunities for future collaborations after the residency?
- How much visibility did you gain from the residency?
- How many people could be impacted by the outcomes of the residency?
- Free comment:

Co-Creation Process

This part is dedicated to your feedback on the implementation of the residency.

- How many people worked actively on the co-creation process?
- How much did you feel dedicated to the collaboration?
- How much was the artist dedicated to the collaboration?

- How much was the tech project dedicated to the collaboration?
- How complementary were the artist and the tech project?
- What was the role of the producer in this residency? How important was it?
- What communication channels did you use during the residency? For what purposes?
- Was the period of the residency enough to accomplish the action plan?
- Were the rhythms of the artwork creation and of the tech developments compatible?
- Was the access to the producing means, facilities easy?
- Where the resources available suitable for the implementation of the action plan?
- What worked well/bad in the co-creation process?
- Free comment

Art-Tech Interaction

This part is dedicated to your feedback on the interactions between art and science

- Before STARTS Residencies, had you already worked on art-tech / art-science projects? Art-science residencies?
- What did you learn from the residency?
- Was there enough room for experimentation?
- What new ideas were generated through/thanks to the co-creation?
- What features of this residency are good examples of art-science collaborations?
- Free comment

STARTS Initiative

This part is dedicated to your feedback on the STARTS Residencies programme

- How do you assess the support from the STARTS Team?

- Do you think STARTS Residencies programme is properly scaled and thought?
- Do you think that the full allocation of the grant to the artist can be a drag on applications and progress of the residency?
- What do you think of STARTS open calls platform? Do you think it could be interesting to gather different calls for art-science residencies in this platform?
- What do you think of the STARTS Residencies blog?
- What are the inputs of STARTS for your organization?
- Free comment

Additional comment and feedback

Tech Project Feedback

This questionnaire will be used by the STARTS team to assess the VERTIGO STARTS Residencies programme. Thank you for filling in this form in its word format. There is no limitation on the number of words/lines used for each question. Please send it back to your STARTS monitor and feel free to send any suggestion to Greg Beller - beller@ircam.fr

Results and outcomes

This part is dedicated to your feedback on the outcomes of the residency.

- Is the artwork as you imagined?
- How many of your objectives were reached thank to the residency?
- Are the results worth the effort / resources?
- What is the best return on investment?
- How this residency will impact your future projects?
- Are there opportunities for future collaborations after the residency?
- How much visibility did you gain from the residency?
- How many people could be impacted by the outcomes of the residency?
- Free comment:

Co-Creation Process

This part is dedicated to your feedback on the implementation of the residency.

- How many people worked actively on the co-creation process?
- How much did you feel dedicated to the collaboration?
- How much was your partner dedicated to the collaboration?

- How would you describe your relationship with your partner?
- How complementary are you?
- Could you do what you did without your partner?
- What communication channels did you use? For what purposes?
- How did the physical distance impact the co-creation process?
- Would you have preferred to spend more time with the team?
- Was the period of the residency enough to accomplish the action plan?
- Were the rhythms of the artwork creation and of the tech developments compatible?
- Did the artist give you preview of the artwork during the residency?
- Where the resources available suitable for the implementation of the action plan?
- What worked well/bad in the co-creation process?
- How do you assess the support from the STARTS Team?
- Do you think the Residencies programme is properly scaled and thought?
- Free comment

Art-Tech Interaction

This part is dedicated to your feedback on the interactions between art and science

- Did your partner take enough time to introduce you to its culture?
- Did you feel lost in the artistic language of your partner?
- Did you define a glossary of words or use other specific means for better common understanding?
- What did you learn from the residency?
- Did the partner affect your technical process?
- Was there enough room for experimentation?
- What new ideas were generated through/thanks to the co-creation?

- Did ideas / solutions pop out of unexpected situations, in unexpected ways?
- What features of this residency are good examples of art-science collaborations?
- Free comment

Additional comment and feedback

Adding value to research and technology through integration of artists in projects and synergy creation between creative industries, entrepreneurs, researchers and arts

VERTIGO STARTS Partner Feedbacks

This document will be used for the global assessment of the programme and for several deliverables reporting completed residencies. For each question, please give a mandatory note (between 0 and 10 where 10 is the best), and an optional corresponding short explanation when relevant.

Residency ID *This part will be mainly used to compare statistically all 45 residencies in the final deliverable report.*	**Mandatory answers (Free text)**
Name of the residency	*Nada*
Name of the artist(s)	*Nada*
Name of the Tech project	*Nada*
Name of the Tech project coordinator	*Nada*
Name of the producer (if any)	*Nada*
Name of additional party (if any)	*Nada*
Name of the STARTS Monitoring partner	*Nada*
Date of the inception meeting	*Nada*
Date of the mid-term meeting	*Nada*
Date of the closure meeting	*Nada*
Date of this document completion (today)	*Nada*
Free remarks	*Nada*

Residency implementation data *This part will be mainly used to compare statistically all 45 residencies in the final deliverable report.*	**Quantitative scale (Please use only numbers here)**
To which category belongs the residency ?	1 or 2
How many people were involved in total in the residency (STARTS partners excluded)?	1
How many men were involved in total in the residency (STARTS partners excluded)?	1
How many women were involved in total in the residency (STARTS partners excluded)?	1
In how many places did the residency take place?	1
How much time has been dedicated by the artist to the residency (cumulated working periods in months)?	1
How much time has been dedicated by the TechProject to the residency (cumulated working periods in months)?	1
How long was the residency in total (time between inception and closure in months)?	1
How many times did you meet physically the artist?	3
How many times did you meet physically the Tech Project?	3
How many of the objectives were reached thank to the residency?	1
How many people could be impacted by the outcomes of the residency?	1
How many events featured the residency outcomes ?	1
In which events did the residency partners take part in?	
Free remarks	

Results and outcomes *This part is dedicated to your feedback on the outcomes of the residency.*	**Mandatory Note (between 0 and 10 where 10 is the best)**
Does the final artwork correspond to the initial artistic proposal?	0
How would you rate the global return on investment?	0
How would you assess the quality of the outcomes (deliverables, timing...)	0
How likely is it that this residency will impact the future projects of the artist?	0
How likely is it that this residency will impact the future projects of the tech project?	0
Are there opportunities for future collaborations between the artist and the tech project after the residency?	0
Are there opportunities for future collaborations between the artist and the producer after the residency?	0
Are there opportunities for future collaborations between the producer and the tech project after the residency?	0
How would you rate the residency on scale: Artwork quality?	0
How would you rate the residency on scale: Scientific impact?	0
How would you rate the residency on scale: Innovation?	0
How would you rate the residency on scale: Residency quality?	0
How would you rate the residency on scale: STARTS communication?	0
How would you rate the residency on scale: Art-science relationships?	0
Free remarks	

Co-Creation Process *This part is dedicated to your feedback on the co-creation process.*	**Mandatory Note (between 0 and 10 where 10 is the best)**
How much did you feel the artist(s) dedicated to the collaboration?	0
How much did you feel the tech project dedicated to the collaboration?	0
How would you rate the quality of the collaboration between the artist and the tech project?	0
How complementary are they?	0
Could the artist do what he did without the tech project?	0
Could the tech project do what he did without the artist?	0
How well was going on the communication between parties?	0
How much did the physical distance impact the co-creation process?	0
Was the period of the residency enough to accomplish the action plan?	0
Were the rhythms of the artwork creation and of the tech developments compatible ?	0
Was the access to the producing means, facilities easy?	0
Did the artist give you preview of the artwork during the residency ?	0
Where the resources available suitable for the implementation of the action plan?	0
What worked well/bad in the co-creation process?	
How do you assess the support from STARTS Team?	
Would you have preferred to spend more time with the residency team?	
Free remarks	

Art-Tech Interaction *This part is dedicated to your feedback on the interactions between art and science.*	**Mandatory Note (between 0 and 10 where 10 is the best)**
How good is the artist at introducing you to his/her culture?	0
How good is the artist at introducing you to his/her culture?	0
As the observer of the co-creation process, how much did you learn from the residency?	0
How much was the creative process affected by the tech project ?	0
How much was the scientifc research affected by the artist ?	0
Was there enough room for experimentation?	0
Were new ideas generated through/thanks to the co-creation?	0
Did ideas / solutions pop out of unexpected situations, in unexpected ways?	0
What features of this residency are good examples of art-science collaborations?	
Did the partners define a glossary of words or use other specific means for better common understanding?	
Free remarks	

Additional free remarks and feedbacks

Residency presentation

This document will be used by the STARTS team to present the STARTS Residencies. Feel free to send any suggestion to Greg Beller - beller@ircam.fr

Residency abstract

Short description of the residency. The abstract presentation would be use for communication purpose, reports and deliverables, storytelling for dissemination.

Specificities of the residency

What makes the residency special (technics, human, co-creation process, art-science relationship…)

Innovation impact

Innovative aspects of the residency

Public exposure

Event featuring the residency, public exposure, press articles with measurement of their corresponding impact, videos…

ANNEX B.1 Global monitoring document

Residency Name	Call	5 Keywords	Name Project	Artist(s) first name	Artist(s)lastname	Producer(s)	STARTS Contracting Partner	STARTS Monitoring Partner	Grant category	Date Start	Residency Start	Residency End	Location residency	Location inception meeting	Contract	Inception meeting	Mid Term meeting	Date of completion	Milestone video	Interviews	Communication tools	Monitoring tools	Participation public event (exhibtions, conference)
ATOM CHASM	Call 2	Atom, quantum, physics, chemistry, laser	ArtAtom	Evelina & Dmitry	Domnitch & Gelfand		IRCAM	IRCAM	2	11/10/18	nov.-18	mars-20	Delf, Amsterdam, Stuttgart	Amsterdam, Holland	Final version done, has to be signed by 3 parties	08/10/18		march 2020					
BEYOND ABSOLUTE	Call 2	Acousmatic soundscapes, diagnostic device, laser projections, health, medicine	LUCA	Reiko	Yamada		IRCAM	IRCAM	2	March 19	mai-19	janv.-20											
COMPOSING MUSIC	Call 2	music, AI, composing, instruments, electronics	AIO	Alberto	Carretero		ARTSHARE	ARTSHARE	1														
DATA UNION FORK: TOOLS FOR DATA STRIKE	Call 2	Blockchain, Data, Privacy, Politics, Education	DECODE	Larisa	Blazic	Waag Society	IRCAM	EPFL	2	26/09/18	sept.-18	janv.-20	Amsterdam, NL	Amsterdam, NL @ Waag	under reworking	26/09/18	01/05/19	~ January 2020	Mid Term Meeting	done	waag dissemination, community engagement events, mid term video, blog posts	minutes, swot, extra comments	
EMBRYONIC	Call 2	3D printing, organs, health, biomorphic, sculptures	3DPRIME	Valeria	Abendroth		ARTSHARE	ARTSHARE	1	10/01/18	nov.-18	juil.-19	Heidelberg, Germany	Heidelberg, Germany		10/02/18				done	3 questions to artist, Inception picture	Minutes, Internal, Interviews	
FROTH OF THE DAYDREAM	Call 2	Immersion, poetry, performing art, interaction, emotion	LE CUBE	Julie	Desmet Weaver		IRCAM	IRCAM	1	25/07/18	juil.-18	juil.-19	Marseille, France	Marseille, France - Villa Black Euphoria	Signed by all parties	25/07/18		Approx 31/07/19			Inception picture	Minutes, Internal, Interviews	
IMMERSIVE MINIMALISM	Call 2	immersion, environment, digital graphics, VR, animation	IMMERSIFY	Theresa	Schubert		ARTSHARE	ARTSHARE	1	23/11/2018	nov.-18	juin-19	Polzan, Poland	Polzan, Poland		23/11/2018							
LIGHT MATTERS PROJECT	Call 2		HOT	Stefane	Perraud		INOVA+	INOVA+	1	11/12/18	nov.-18	mars-19	Malta	Malta									
MUTED	Call 2	Signs, translation, dance, language, VR	CONTENT4ALL	Christophe	Monchalin		INOVA+	EPFL	1		nov.-18	juin-19											
MY FEARS MURMURED TO YOU	Call 2	Virtual Reality, 360° Close-Up, Emotions, Immersive filmmaking	Virtual Close Up	Laurent	Bazin		INOVA+	INOVA+	1		oct.-18	janv.-20		Paris, France		19/10/18							
O.R.S. (ORBITAL RIVER STATION)	Call 2	Water, biosensors, nanomaterials, monitoring, IoT	NANO2WATER	HeHe	HeHe		IRCAM	IRCAM	2	01/11/18	nov.-18	sept.-19	Braga, Portugal	Braga, Portugal		01/11/18							
PRINT YOUR CITY !	Call 2	Plastic, Monetization, 3Dprinting, Community, Co-design	PTwist	Panos	Sakkas		ARTSHARE	EPFL	1	29/08/18	août-18	juil.-19	Amsterdam, NL	Luzern, CH	to be signed by ArtShare	29/08/18	01/04/19	~ July 19	Mid Term Meeting	done	community engagement workshops, blog posts	minutes, swot, extra comments	
QUI PERD GAGNE!	Call 2	Game, iCards, digital, global village	Hybrid Games	Pascale	Marthine Tayou		IRCAM	IRCAM	2		janv.-19	janv.-20											
SCI-FI MINERS	Call 2	Critical materials, Nanotechnology, Sci-fi, Audio-visual, Experience	CritCat	João	Martinho Moura		INOVA+	INOVA+	1	25/09/18	sept.-18	avr.-19	Braga, Portugal	Braga, Portugal	Signed by all parties	25/09/18	18/12/18	30/04/19		done	Inception pictures		
SLEEP IN THE CITY	Call 2	Sleep, sensor, brainwaves, smart city, health	Aarhus City Lab	Walid	Breidi		ARTSHARE	ARTSHARE	1	01/10/18	nov.-18	juil.-19	Aarhus, City Lab	Aarhus, City Lab		19/09/2018				done	3 questions to artist, Inception picture	Minutes, Internal, Interviews	
SPELAION	Call 2	e-material, caves, environment, waste reduction, urbanism	DEAN	Félix	Cotte		IRCAM	IRCAM	1	19/09/18	sept.-18	mars-20	Grenoble, France	Grenoble		19/09/18		Approx March 2020			3 questions to artist, Inception picture	Minutes, Internal, Interviews	
TRANSHUMAN EXPRESSION	Call 2	Water, biosensors, nanomaterials, monitoring, IoT	WeDRAW	Liat	Grayver		INOVA+	INOVA+	1	01/09/18	sept.-18	déc.-18	Genova, Italy	Genova, Italy	Signed by all parties	06/09/18		31/12/18		done	3 questions to artist, Inception picture		
ATLAS	Call 1	Mixed, Reality, AR, VR, City, Seeds, Photogrammetry, Interaction, Visual,	WEKIT	Deval & Losseau	Deval & Losseau	Fédération Wallonie-Bruxelles Cocof Maison des Cultures et de la Cohésion Sociale de Molenbeek	ARTSHARE	EPFL	1	**04/12/17**	déc.-17	nov.-18	Oxford, UK	Performance Augmentation Lab School of Engineering, Math, and Computing Oxford Brookes University, Oxford	validated	**04/12/17**	02/03/18	23rd November 2018	mid-term meeting	done	text + photo from inception meeting, provide content on the blog + mid term video	Report, minutes and comments	Potential for an event at Oxford Brookes University
BLUEPRINTS FOR AN EMERGENT PERSONALITY	Call 1	cognition, drawings, computation, personality, language	AMORE	Kate	Aspinall(Thep)		INOVA+	INOVA+	1	11/04/18	avr.-18	janv.-19	Barcelona, Spain		Validated	11/04/18	22/10/18		mid-term meeting	done			IoT Week 4_7 june 2018 @Bilbao
BY THE CODE OF SOIL	Call 1	soil, sensors, community, environment, monitoring	GROW	Kasia	Molga	Future Everything	IRCAM	IRCAM	2	**13/11/17**	**nov.-17**	**déc.-18**	Dundee	Duncan of Jordanstone College of Art (DJCAD)	validated	**13/11/17**	26/01/18	December 2018	Mid-term meeting	done	video will be provided, text, pictures accepted + provide content on the blog + mid term video (monitoring)	SWOT + extra comments	Ircam Centre Pompidou 15 June 2018
MAGIC LINING	Call 1	Wearable, emotion, sensors, garments, electronics	MAGIC SHOES	Kristi	Kuusk	NA	INOVA+	INOVA+	1	**10/11/17**	**nov.-17**	**août-18**	Madrid, Spain; Tallinn, Estonia	Kirsit Kuusk Studio, Tallin Estonia	signed (wrong date of completion!)	**10/11/17**	25/05/18	31st August 2018	mid-term meeting	done		extra comments in a minutes	Ircam Centre Pompidou 15 June 2018
POLLUTION EXPLORERS	Call 1	Air quality, community engagement, wearables, smart city, workshops	HACKAIR	Ling	Tan	Future Everything	IRCAM	EPFL	2	**17/10/17**	**oct.-17**	**nov.-18**	Thessaloniki	DRAXIS Mitropoleos 63, Thessaloniki 546 23	validated	**17/10/17**	31/01/18	30th November 2018	30th April	done	text + photo from inception meeting, provide content on the blog + mid term video	SWOT + extra comments	
REACTIVE MATTER	Call 1	Interactive matter, micro-robots, sculpture, network, sensory installations	PROGRAMMABLE MATTER	Lasserre & Met Den Ancxt	Lasserre & MetDenAncxt		INOVA+	INOVA+	1	01/03/18	janv.-18	janv.-20	Montbéliard, France	Numerica Université à Montbéliard Cours Louis Leprince-Ringuet 25200 Montbéliard	validated	**03/05/18**							Oslo November 7th "Technology and Emotions" / "Soirée Sonore#4 "Centre Pompidou November 16th
SMART>SOS	Call 1	Bio-computation, microbiology, protein, mechanism, sonification	BIO4COMP	Tim Otto	Roth		IRCAM	IRCAM	2	**22/09/17**	**sept.-17**	**avr.-18**	Lund & Dresden	Max Planck Institute of Molecular Cell Biology and Genetics, Pfotenhauerstr. 108, 01307 Dresden	validated	**22/09/17**	13/12/17	April 30th, 2018	Mid-term meeting	done	sound will be provided, text, pictures accepted + provide content on the blog + mid term video (monitoring)	SWOT + extra comments	Ircam Centre Pompidou 12-16 June 2018
THE IDEAL SHOWROOM OF IOT	Call 1	IoT, artificial intelligence, 3D technology, virtual reality	CREATE-IOT	So	Kanno	Retune Creative Technology GmbH	ARTSHARE	ARTSHARE	1	27/10/2017	oct.-17	janv.-19	Trondheim, Norway	Saint-Josse-ten-Noode, Belgium	validated	27/10/17	31/10/18		?	?	?	?	
THE PLANT SENSE	Call 1	plants, devices, sensor, garden, biochemical	FLORA ROBOTICA	Castellanos & Valderde	Castellanos & Valderde	Laboral	ARTSHARE	ARTSHARE	1	**26/09/17**	**sept.-17**	**juin-19**	Lübeck, Danemark	CITA Copenhagen	validated	**26/09/17**	**30/11/17**	12/06/18	mid-term meeting	done		Minutes + SWOT	Oslo November 7th "Technology and Emotions"
WIND AVATAR	Call 1	Brain, emotion, expressions, motion capture, myth	DANCE	Haseeb	Ahmed		IRCAM	IRCAM	1	**21/09/17**	**sept.-17**	**déc.-18**	Bruxelles & Maastricht	25 rue Sceptre, Ixelles, Brussels	validated	**21/09/17**	27/10/17	21/03/2018	Mid-term meeting	done	video has been be provided, text, pictures accepted + provide content on the blog + mid term video LINK:	SWOT + extra comments	October, 2018 Solo exhibition at Antwerp Museum of Modern Art (MuHKA) as part of InSitu program, Curated by Nav Haq April 3, 2018 Artist Talk with Prof. Florian