



WEAR
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WEARABLE TECHNOLOGISTS
ENGAGE WITH ARTISTS FOR
RESPONSIBLE INNOVATION

Open Call Themes for Project Proposals

Funded by the EC Horizon 2020

Sustainable and Ethical Wearables, Smart and Electronic Textiles

Wearable technologies, smart and electronic textile products aimed at private consumers constitute a nascent market, expected to grow very fast. Their disruptive power is exemplified by the competition between established technology giants, start-ups as well as a wide interest in academia and experimental arts and design communities.

Reviewing the fast development of this field, it becomes apparent that a number of sustainability and ethical issues are yet to be addressed. One main concern is the amount of data that wearable technologies are able and allowed to capture, in particular in terms of their users' personal data, raising ethical issues regarding ownership and processing of this data by the involved wearables and service providers. A second concern involves the issues arising from the merger of the electronics and textiles industries, with regards to environmental, economic and social sustainability.

WEAR acknowledges the interdisciplinary and diverse nature of this field, and believes that the development of sustainable and ethical wearable technology and e-textiles markets relies on their capacity to break down barriers between the creative sector and technology industries. We aim to challenge artists and designers to work with technologists in collaboration to tackle these issues, and to meet the meaningful potential of wearable technologies, smart and electronic textiles in society and industry.

In this Open Call, we seek proposals that address current and pressing issues facing European and global society, and have set out themed areas, as guidance for developing a proposal for the WEAR funding. Applicants are asked to engage with one or more of these challenges in a critical and creative way, and propose solutions to Real World issues using art and design. Irrespective of the chosen theme, both major concerns (data ethics and sustainability) should be addressed in the proposal.



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1. Environment

How can artists & designers and technologists solve environmental issues in creating, using and discarding wearable devices and smart textiles?

We seek project proposals that address environmental issues, looking at the one or several concerns around mineral sourcing, mining waste and pollution, end of life, e-waste and textile waste, and the impact on soil, water and animals, non-invasive or calming technologies, and developing new generative environments.

2. Use & Reuse vs Waste:

How can artists & designers and technologists develop new wearables using technologies, textiles and materials that engage with sustainable use, reuse or waste?

Proposals for this category could address ethical material sourcing, are biodegradable, recyclable, self-repairing or even actively cleaning the environment; are reusing existing products and materials, or involve upcycling, life cycle waste management, circular design, involve zero waste, emissions, non-toxic dyes and fabrics, or are made of natural, organic sustainable, or bio-materials. Further areas to explore are biomimetic approaches, and no-tech smart materials.

3. Body/physiology/somatics:

How can artists & designers and technologists address and combat the negative impact of wearable technologies and smart textiles on the body?



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In this category we seek proposals that address health issues arising with the use of wearables, smart or electronic textiles, such as through toxicity of plastics and metals on skin, use of hormones, EMG waves forms interfering with body processes, electronics interfering with electrical signals of the heart, spinal cord etc; comfort when worn on the body, or implants and their evasiveness on internal body chemistry and processes. Possibly growing substrates or soft/living architectures that are an extension of wearables or even animal wearables for conservation / healing.

4. Energy:

How can artists & designers and technologists develop wearable devices and smart textiles that harvest or make use of alternative energy?

We seek project proposals that address the debate of power consumption of wearable technologies, and offer alternative concepts and solutions using thermal energy from the body or sun, kinetic, energy from movement (e.g. piezoelectric, electrostatic, airflow), or biological processes and materials as source.

5. Emotional and Mental health:

How can artists & designers and technologists develop wearable devices and smart textiles that minimise the negative impact on users emotional and mental health, and enhance comfort and wellbeing?

Proposals for this category should address topics on personal privacy, supporting and enhancing relationships and and intimacy between people, as well as the use of monitoring and



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preventative approaches to the physical mental and emotional health, e.g. assistive tech for dementia / autism, Gerontechnology (elders);

6. Social/Cultural/Economic:

How can artists & designers and technologists develop wearable devices and smart textiles that create social, cultural and economic sustainability?

Applications in this category need to address one or more themes around surveillance and social equality, employment ethics and work conditions, such as employer-surveillance, poor labour practices and human rights issues, or questions around collecting users' data, such as for algorithmic focussed marketing, corporate profit and government surveillance, or involve methods of protecting personal privacy, using body-area-network only data processing.

7. Open category:

Artists & designers and technologists teams may propose projects that do not strictly fit these categories or fit more than one, but need to be aware that their project needs to be an ethical, responsible, environmental, sustainable and aesthetic solution to a real world social, political, economic and environmental problem.

Context

The arts are gaining prominence as a catalyst of an efficient conversion of science and technology knowledge into more innovative products, services, and processes. In line with a broader European strategy to enhance creativity and the innovative capacity in industry and



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society, the European Commission has initiated the STARTS Prize, alongside that and has funded the WEAR consortium and others initiatives to boost synergies between artists and ICT experts (technologists) to enable Europe to benefit from the catalytic nature of the arts and culture across European society and industry. In order to promote further collaboration between the arts and technology through innovation activities, WEAR focuses its engagement in collaboration, co-design and co-development of a new generation of ethical, critical, and aesthetic wearable technologies and smart textiles to influence change in industries practices and for a more circular economy.



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