STARTS

A perspective on Innovation at the nexus of Science, Technology, and the ARTS

How the Arts can act as a catalyst of innovation in industry and society

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Innovation in 21st century is different

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ICT is changing the way we interact, create, and innovate:

Co-creation
Massive scaling
Virtualisation of content
.....

OPEN SCIENCE

OPEN INNOVATION

OPEN CULTURE

Open	=	Participatory
Open	=	No Silos
Open	=	Borderless

| 20th century	21st century
Specialisation	Transdisciplinarity
R&D drives innovation	Creativity is key to innovation and competitiveness
Technology -> Standardisation	Services → System thinking
Culture and Technology are separate sectors	Culture as a platform for innovation in industry and society
Universities educate knowledgeable workforce (splitting in engineering/science/arts sectors)	Universities also need to ensure creative thinking across disciplines (see e.g. Aalto university)

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Recognition of the role of Science in innovation in 20ᵗʰ century

"Everything we know about history, technology, and economic theory tells that an increase of this magnitude [in GDP] would not have been possible in the absence of science-based technological change".

(Paul Romer: 'New Growth Theory')

Science

Technology

Innovation at confluence of knowledge &creativity

Design

Arts
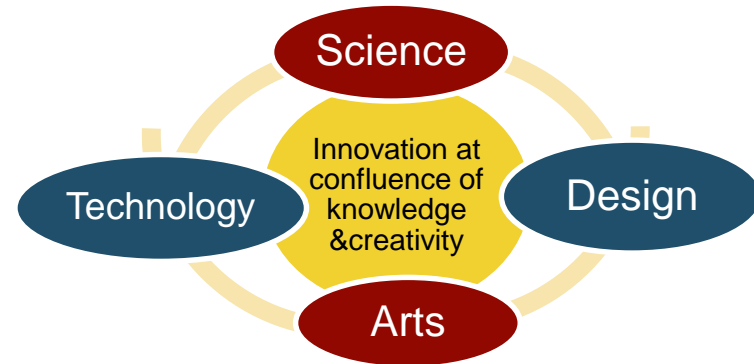
Innovation is as much about creativity as it is about transfer of scientific knowledge

"It's commonly believed that engineers dominate Silicon Valley; that there is a correlation between the capacity for innovation with education in maths and science. Both assumptions are false! Many in Silicon Valley have degrees in the Arts."

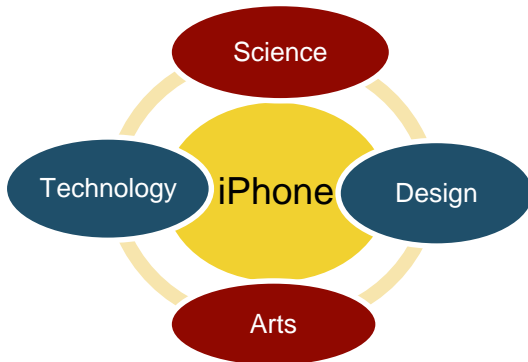(Vivek Wadhwa, Harvard)
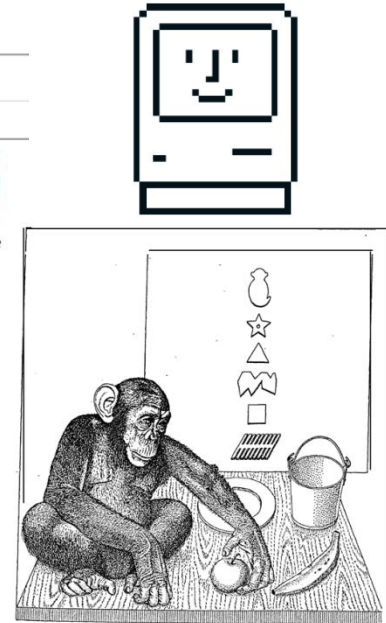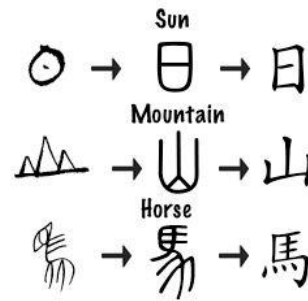
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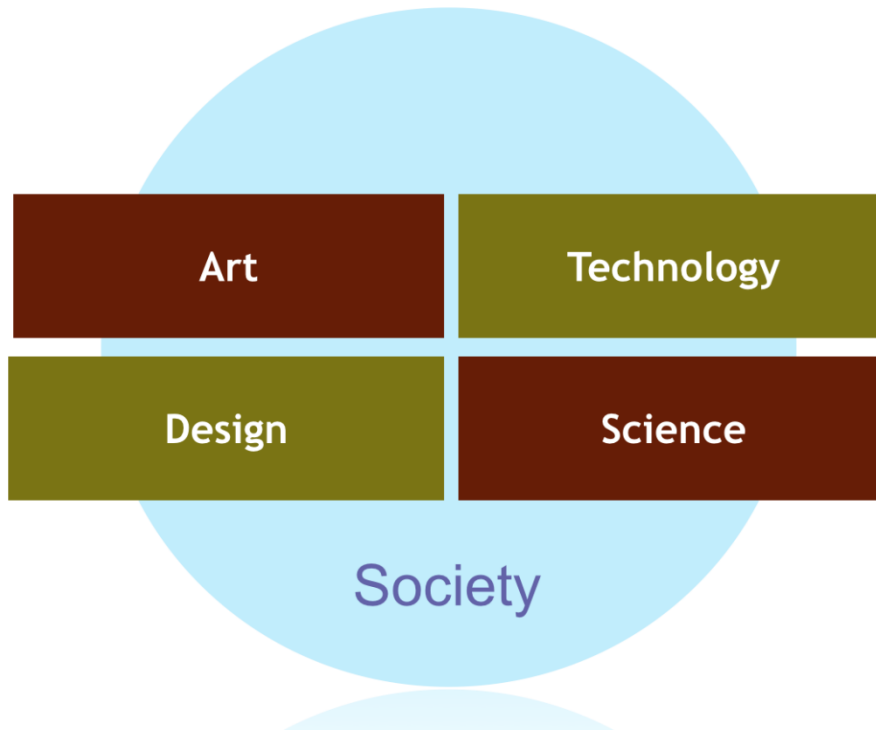
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"Apple is able to create products like iPad because we try to be at the intersection of technology and liberal arts, to be able to get the best of both."

"Our major contribution [to computing] was in bringing a liberal arts point of view to use of computers."

Steve Jobs, CEO, Apple

The Iphone intertwines seamlessly:
Technology **-** Services
Design - Interfaces

Fluxus
Innovation across blurring borders
Life- Arts -Technology

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Art

Technology

Design

Science

Society

Technology – Design
Solutions....
How to make it (feasible)?

Science
Questions - Exploration
What is (in principle) possible?

The Arts
Questions - Visions
What could/should be possible?
Art as catalyst of innovation

The challenge for STARTS is to accelerate and widen the exchange of skills of artists and creative people with entrepreneurs and technologists throughout H2020 and in European industry.

' Contemporary art as a vehicle of presenting, analysing, and tinkering with leading edge technology '

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CCI - Creative und cultural industry
Highly important and well supported

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Media programme now in CONNECT
Recognition of the increasing role of ICT for CCI

Design · Fashion · Video Games · Software · Antiques & Museum · Advertising · Architecture · Arts & Crafts · Publishing · TV & Radio · Movies · Photo · Music · Performing Arts

Creative industry is important in European economy

NOT the main target of STARTS

STARTS targets creativity in ALL of industry with the arts as catalyst.

- **H2020 LEIT**
  - Challenge 4
    - Tools
    - Distribution
  - FI-WARE
- **H2020 SC6**
  - Reflective Societies
- FTI
- ODI

- **InnovFin** SME Guarantee Facility

- **Creative Europe**
  - Media
  - Culture
  - Guarantee Facility (from 2016)
- **Erasmus+**
  - training

EU and the CI

DG CNECT · EIB & EIF · DG EAC · DG GROW · CoR · ESTAT · DG EMPL
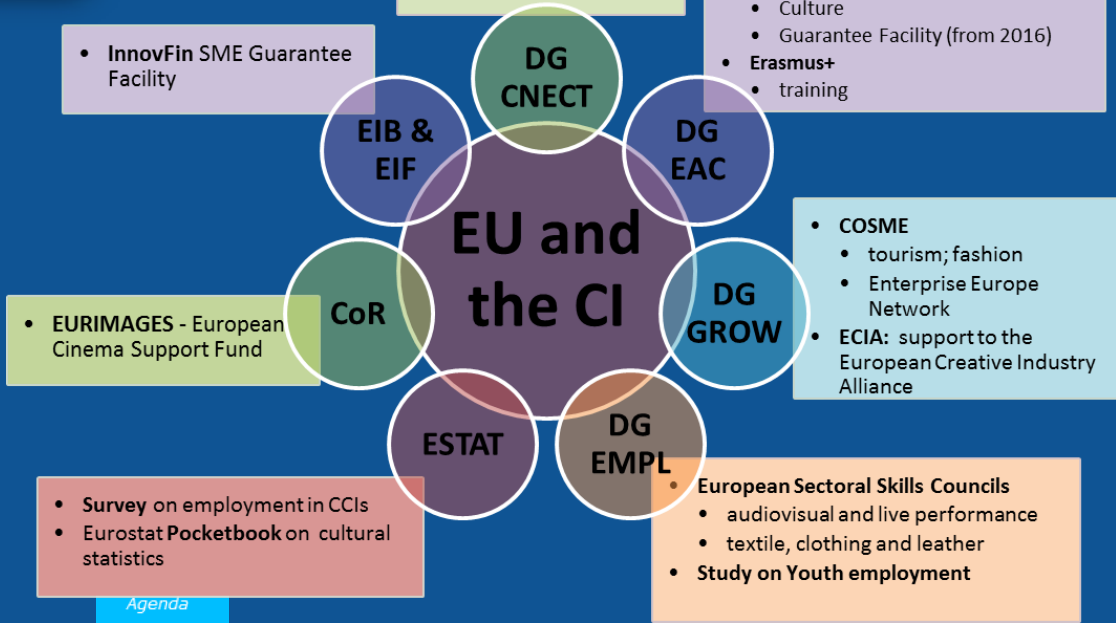
- **EURIMAGES** - European Cinema Support Fund

- **COSME**
  - tourism; fashion
  - Enterprise Europe Network
- **ECIA:** support to the European Creative Industry Alliance

- **Survey** on employment in CCIs
- Eurostat **Pocketbook** on cultural statistics

- **European Sectoral Skills Councils**
  - audiovisual and live performance
  - textile, clothing and leather
- **Study on Youth employment**

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Daimler Mercedes
Visions/ideas of artists for the car of the future and the future of transport

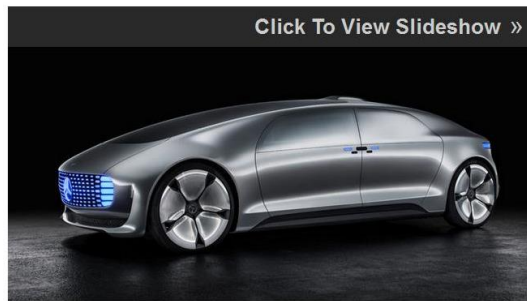# Telefonica/Laboral
'Next Things' prize Art and IOT

Daimler works with Ars Electronica Futurelab to explore new ways to communicate with autonomous cars.

The Coolest Cars of CES 2015

By Dan Costa January 10, 2015   0 Comments   Slideshow

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CES has long featured cars, but this year had everything from software platforms to apps and self-driving concepts. These are the best vehicles we saw there.

At Mercedes-Benz's "Future Studies and Ideation" group, artists' visions of the future are used as input for the design and development of new cars.'
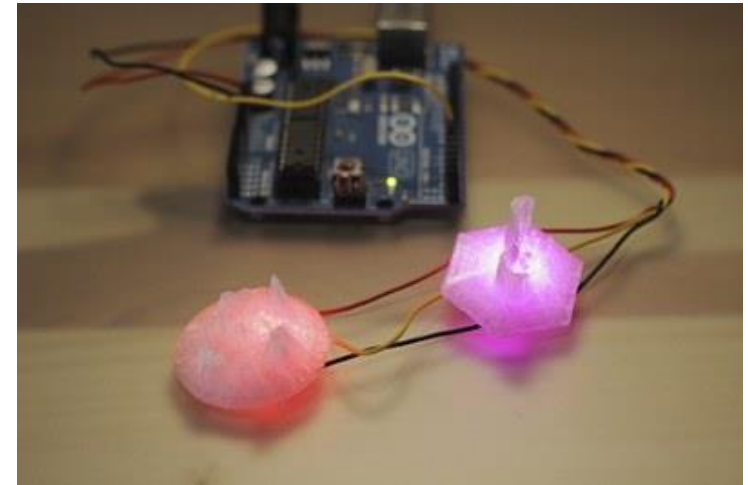
A smart dress with sensors that measure the aggressiveness of the environment to analyse how it affects the mood of individuals

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**An artist's exploration on the use of images
and cartoons by NSA (exhibit at Biennale Venice)**

The Innovator's Dilemma **adopts the architectural
typology of the industry tradeshow. Denny's work
combines sculpture, performance, graphics and moving
images to address our relentless need for innovation.
(exhibition at MOMA)**

Synergies between Culture/Arts and Innovation policies emerge

G. H. Oettinger, commissioner:

"Artistic creativity and critical thinking are essential for innovation in today's digital world...... ".

Carlos Moedas, commissioner:

'I think that more and more we all understand that innovation in the future will be on the intersection of arts and sciences".

112TH CONGRESS
1ST SESSION

H. RES. 319

Expressing the sense of the House of Representatives that adding art and design into Federal programs that target the Science, Technology, Engineering, and Mathematics (STEM) fields encourages innovation and economic growth in the United States.

IN THE HOUSE OF REPRESENTATIVES

JUNE 21, 2011

Council conclusions of European presidency :
Crossovers from culture to innovation in industry and society

.....crossovers between the cultural/creative sectors and other sectors can .... generate innovative and intelligent solutions for today's societal challenges.....

....The council invites the Commission to take actions for
- supporting multidisciplinary teams of artists, researchers and technologists;
- developing at all stages in education transversal skills, such as critical and creative thinking [via the Arts];
......

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ICT 36: Boost synergies between artists, creative people and technologists

- **STARTS EXPLORATION**: 3M EUR Innovation Action establishing a structured dialogue between creative people (artists...) and technology developers:
  1. Develop a Network of institutions
  2. Organise a competition for Creatives & Technologist to build prototypes.

- **STARTS MATCHING:** 4 M EUR coordination action encouraging artists' integration into research and innovation projects via a brokerage service and other measures.

Examples:
- Short-term residences of artists in technology and of scientists in art institutions
- 7 on 7: Matchmaking events where (seven) pairs of artists engineers/scientists discuss
- Annual STARTS conference, online facilities ....

- **STARTS PRIZE:** 1 M EUR coordination action for organisation of a prestigious prize to give visibility to innovation rooted in links of Technology with the Arts.

The call will ensure organisation of the STARTS prize from 2017 to 2020 by an organisation that is able to promote the prize and give it high visibility both in the art and in the technology world.

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<u>Ulitmate goal: STARTS H2020 Mainstreaming</u>
Combining artistic, design, scientific and technological thinking <u>across all </u>H2020 topics

→ Explicit mentioning of STARTS in WP2016/2017 introduction to encourage <u>all</u> proposers to consider artists as project participants. Clear message to proposals evaluators!

'The exchange of skills of artists and creative people with entrepreneurs and technologists will also be promoted .... .STARTS will encourages Horizon 2020 projects to dedicate, whenever appropriate, r esources to artistic and other   creativity-enhancing practices for instance for exploration of technol ogical limits via art installations, developing   ..unexpected uses of technology, testing of unusual t echnical solutions, and for working on social acceptance.

→ Selected topics call explicitly for inclusion of artists:
IOT – Call on Internet of things
CAPS – Call on collective awareness platforms
FET – Future and Emerging Technologies in all its calls
STARTUP EUROPE programme

Materialise
3D printing and Arts:
Melting arts, craft, industry and DIY

BMW and ART+COM
Product development
as art installation

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Nick Ervinck, Belgium artist

Nick Ervinck's collaboration with Materialise, a Belgium 3D printing company has been pushing the boundaries of 3D Printing.

Kinetic Sculpture, 2008

The form-finding process in car design as five seven-minute choreographed sequences covering the design process of five iconic cars from the company's past and present.

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General and STARTS info on WP2016-2017

ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html#h2020-work-programmes-2016-17

(see point 1 - introduction - that mentions STARTS as overall theme in WP2016-2017)

(A) Point 5.i (ICT): Topic ICT 36 (a) and (b) referring to the three projects in STARTS

ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/5092-ict-36-2016.html

(B) There is explicit mentioning of potential role of artists for innovation in a number of topics

Point 5.i (ICT): Topic ICT 12 (Net Innovation)
Point 5.i (ICT): Topic ICT 32 (Start-up Europe)
Point 17 (crosscutting topics): Topic IOT -01-2016 (Large scale pilots in Internet of things)

General info on STARTS ec.europa.eu/digital-agenda/en/ict-art-starts-platform and ictartconnect.eu

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'*Artists put ideas and values into physical forms and processes*'

(Olafur Eliasson, artist)

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