



# Immersive & Interactive Content

## Public Private Partnership

**Creative industries use cases illustrating the potential use of the I<sup>2</sup>C Platform**

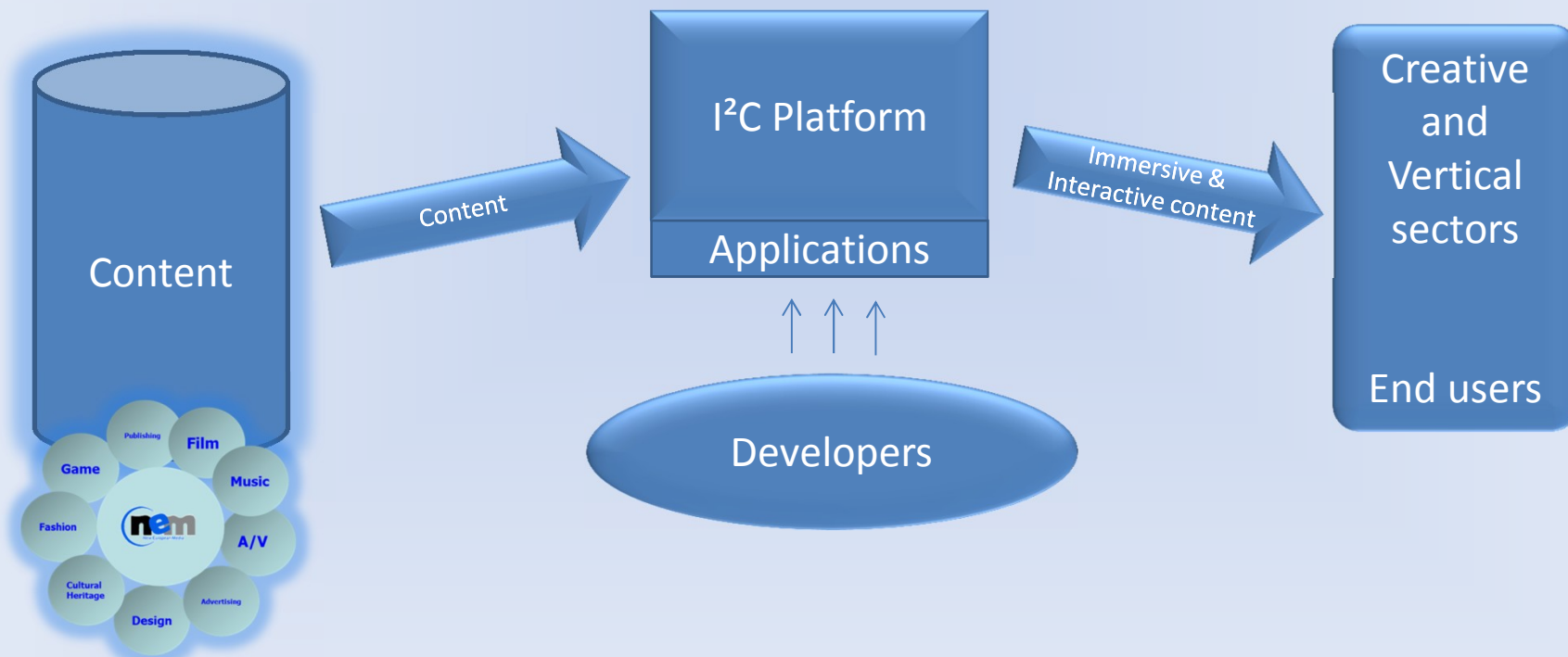
**Frankfort, October 2015**

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# I<sup>2</sup>C objectives

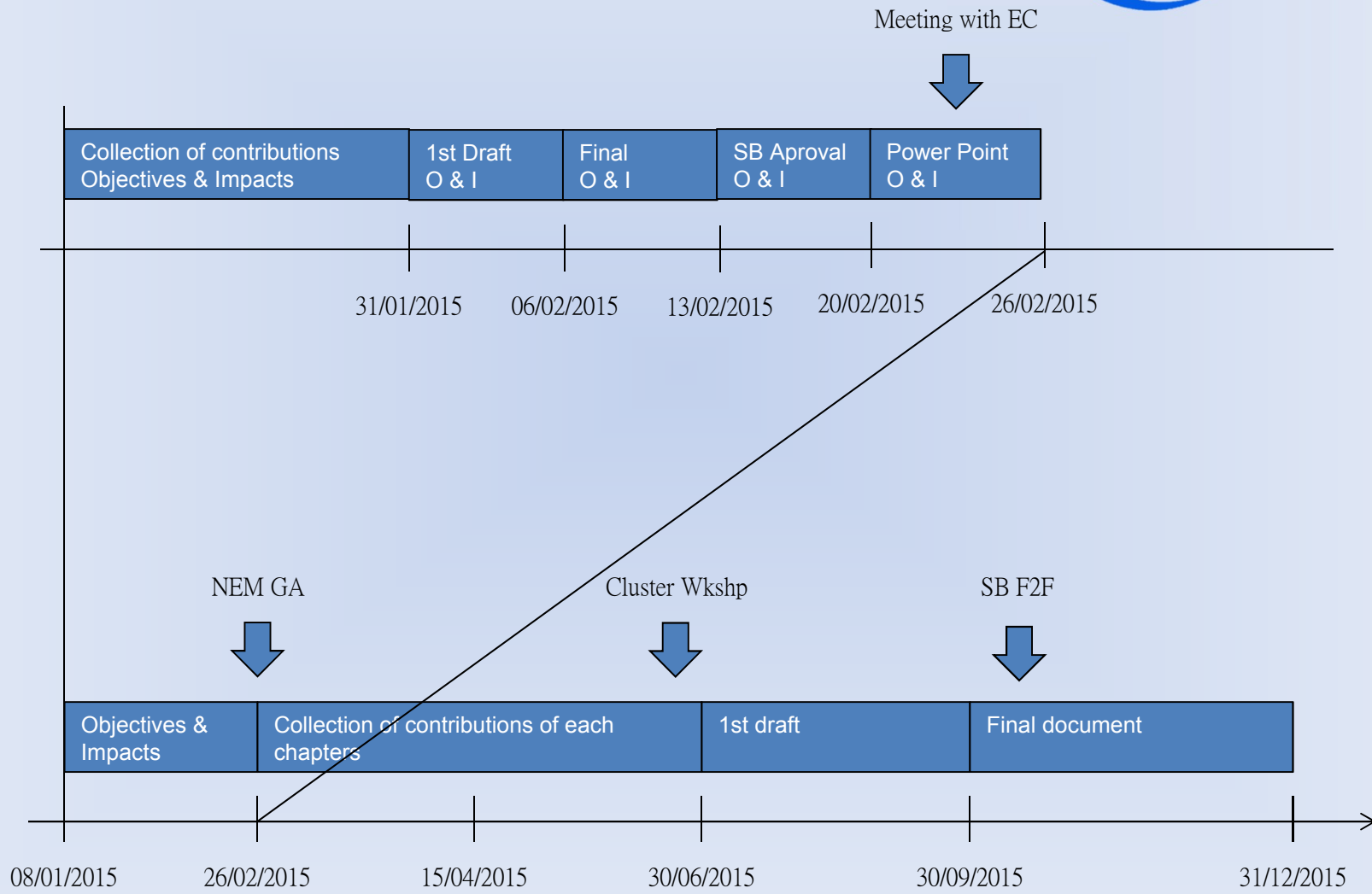


Provide an Immersive and interactive environment responding / anticipating to the user needs to improve productivity and cross/intra domain collaboration





I<sup>2</sup>C platform should be used by any creative industry for their own business but also by any vertical sectors (eHealth, transport, energy, manufacturing, ...)



# Use cases



- In order to validate the interest of the I<sup>2</sup>C platform, NEM setup a survey with the Creative and media clusters
- These use cases are illustrating the potential use of the I<sup>2</sup>C platform
- Each sector has brought a use case in order to show the interest.

➔ 13 use cases collected



# Publishing



Designing new experiences around content and digital storytelling are needed to fully use and exploit the digital potential of technology and to engage readers and viewers while keeping costs affordable

The Use case for immersion is denoted by Immersive Media Technology Experiences – IMTE – and involves immersive journalism and immersive sports reporting

**Immersive journalism** is defined as ‘using virtual reality and 3D environments to convey the sights, sounds, and feelings of the news’

The use case could be to focus on one particular topic and to create different user experiences within several European Union countries showing daily life, tips and tricks, commitments, rights, obligations of European citizens.... This kind of pan-european immersive journalism experience could be performed on multiple socio-economic subjects such as initiatives to limit youth unemployment, startups incubators, microcredits initiatives, fighting against poverty

**Immersive sports news** where user experiences can be enhanced to allow a first-person immersive experience such as replacing a driver in a F1 or rally car, running a few meters in a 100/200 m in company of Usain Bolt or swimming a short distance with Michael Phelps, skiing, skydiving and many other sports.

# Film



- VR is still an entirely new medium for cinema, but it is something that is being studied by companies as Oculus Studio or even Disney. By bringing together filmmakers, artists, and VR pioneers, the goal is to jump-start a broader movement to bring more stories to VR headsets and create new experiences that will for sure have a great audience. For example, a shadowy forest, it turns out, can be far more frightening when it envelops you than it would be on even an IMAX screen. “Some people are very emotionally sensitive to these experiences,” Unseld says. (Saschka Unseld | Creative director, Story Studio | Oculus).
- Disney just invested 66 mill dollars in VR startup JAUNT VR that has developed an end-to-end cinematic virtual-reality content-creation platform that includes a custom camera capable of shooting high-end, professional-quality 360-degree footage, software for stitching the footage together, a distribution system, and a Los Angeles VR production studio.
- That means this is a next step not only for animated movies but also real movies film making and Europe is still on time to enter in a new market yet unknown but for sure the future.

# Music



- Immersive and interactive technologies have the potential to open up entirely new ways for audiences and fans to engage with musicians and their music. There is an enormous range of possible VR/AR solutions which could have an impact on audiences and their enjoyment of music and artists. For example, communications between artists and their fans can become more engaging and intimate; access to immersive musical environments may become more innovative; and fans might discover new ways to enjoy musical content and products.
- In order for VR/AR experiences to proliferate widely to a mass market, methods to bring VR creation into the mainstream are of interest to music and other entertainment companies. There is a real need to create technological means of connecting artists with audiences which is practical and scalable at an industry wide-level, solving the difficulties involved in producing experiences which bring the audience into the artist's world. The music industry is interested in:
  - innovative tools, processes, products or services that enable music fans to share in immersive experiences with artists and their content.
  - technologies which enable communication, content production or shared immersive environments which would deepen the audience's connection with an artist and/or their music.
  - how such technology would be scaled and used across industry.



# Audio-visual



The ways in which film is produced and consumed are being transformed. At the same time, the demands of consumers and citizens are for greater immersion: highly interactive, film-like experiences that bring together moving image production, video game and cross-media technologies. Of course, these will not simply be for entertainment purposes, with the potential for applications in education, culture, health and other domains.

Advances in computer graphics and video effects permit film and television producers to develop entertainment experiences in ever greater clarity, detail and depth. Combining these emerging technologies with virtual and augmented reality opens new dimensions in story-telling for cinema, theme park entertainment and narrative-based experiences on a range of future platforms

It is not just the delivery platforms that are changing: producers are working towards the development of hybrid products, part game, part film in which the viewer/player can follow a scripted storyline or explore and experience a story world in a self-directed manner of their own choosing

# Advertising



to be completed

# Design



- Designing for a flat screen and designing for an immersive environment are two fundamentally different challenges. Virtual Reality is immersive; design should support and enhance the user's sense of presence in the virtual environment.
- The way we experience the world is changing and will continue to change drastically. From high-end platforms that cost thousands of dollars to smartphone-run systems, the surface of designing for VR has just barely been scratched.
- Exploring the potential of design using VR technologies is a must as it will have a great impact in many areas of knowledge:
  - Virtual reality engineering is employed by Balfour Beatty Rail, a rail infrastructure contractor who includes this as part of their design process. It is used for planning, prototyping and construction purposes, and helps with project realization.
  - Car manufacturers use virtual reality for prototyping purposes during the design process. This enables them to produce several versions which are then tested and changed as per the results. This removes the need to build a physical prototype and speeds up the development stage. The result is a cost effective streamlined process.
  - Architecture: "This technology is going to be so precise, you're going to be like a magician. You'll be able to change the world around you like a god."(Demangel, London 3D imaging company [IVR NATION](#))
  - Google is also taking the lead; after they launched Google Cardboard they published a set of written design guidelines follow by the implementation of the Cardboard Design Lab... trying to open it to the society so everybody can design content.

# Cultural heritage



- Usefulness of Remote Sensing (RS) technologies for monitoring, documenting and preserving cultural heritage has been recognised worldwide.
- As part of RS, earth observation from satellites has been playing a significant role in identifying threats to which cultural heritage sites are exposed. However, satellites are expensive and offer little flexibility or real-time image control.
- On-site visual sensors, together with other types of commonly used sensors, can constitute a powerful tool to complement satellites. Especially, the use of 360°, multi-view or panoramic video with innovative interaction capabilities, namely eye-gaze and gesture recognition, can allow remote users to seamlessly navigate in the scene being captured offering realistic and non-intrusive monitoring of monuments at risk and cultural heritage remote sites. Together with the real-time reconstruction of on-site conditions (temperature, humidity or wind strength and direction) resorting to AR, users are provided with increased sense of immersion, thus contributing to improving her/his monitoring and analysis task.
- In addition to professional uses, such immersive techniques can contribute to involve the public, raising awareness of good practices, providing an attractive way for people to become more participative and socially responsible.

# Game



The video game industry is pushing into spaces previously the domain of the VR community. Clearly, the VR field is transitioning into work influenced by video games and thus now influences that industry as well. Because much of the research and development being conducted in the games community parallels the VR community's efforts, it has the potential to affect a greater audience

Next-gen gaming experiences are not only going to be fully immersive, but will become less and less about users “playing roles” and more about being enveloped in a virtual world that feels absolutely natural.

Creating technologies that engage the game player's mind via sensory stimulation and providing methods for increasing the sense of presence contribute to building a feeling of immersion. This work includes:

- computer graphics, sound, and haptics;
- affective computing—sensing human state and emotion; and
- advanced user interfaces.

Spatial and immersive sound are key components for whatever training and educational systems researchers build with gaming.

# Narrative



There is a need to approach the analysis of the various new narrative forms from both the artistic perspective of the creative process as from business and economic vision. In this sense it is interesting because of the recent interactive narratives (games, storytelling advertising, gamification, transmedia, advergaming) as well as for the new proposals for greater projection described in the I2C PPP: virtual reality, augmented reality

In order to develop this new approaches, the I2C PPP will help by providing the right professionals network in order to find ways of getting skills needed as:

- Narrative Videogame designer : expertise in creating immersive , ludo-functional interactive worlds, ability to design events and dramatic narrative characters to interact
- Writer of interactive products: ability to build non-linear narratives efficient and consistent manner, ability to design relevant and well integrated characters into interactive content.
- Screenwriters for traditional media: improving skills related to interactive immersion and conversion to new professions.
- ...

# Education



**Health and education** : Virtual Reality Knowledge and training of health professional with Virtual Reality technologies will have a major and positive impact in the industry at an economic and social level; for example the treatment of contagious diseases such as the recent case of Ebola or the management of delicate and expensive infrastructures, so staff with no experience can operate them without prior experience. Virtual reality also revolutionized **Medicine education**, these technologies allow students to view, in detail, full- interactively the functioning of organs and systems. Students can learn with great realism blood pumping, bones, muscles and organs without the need of corpses

New and exciting technology applications using VR, AR, and Immersive 360 video offer exciting opportunities to develop novel processes and pedagogies (i.e. ways of teaching and learning) that engage learners in innovative ways. Immersive environments offer an opportunity to train people in previously unimaginable ways that encourage and embed deeper learning. The vocational training sector needs innovative proposals for technology enabled solutions that create scalable VR, AR, tools, services or interactive immersive experiences to assist in the delivery of vocational training and learning.

# Tactile experiences



- Much of the development activity in virtual reality to date has been in the creation of engaging visual environments. Yet one of the key elements in creating truly convincing virtual environments will be technologies that cater for the other senses, such as haptic and tactile technologies. Without tactile feedback the user cannot experience genuine interactivity with the virtual environment.
- How do we convert sensory stimuli into transmittable and readable information? What devices or technologies could encode, transmit and then decode/reproduce touch data and information? These questions are particularly pertinent in a **medical setting** where doctors and other healthcare specialists touch and feel patients to diagnose physical ailments. Bringing tactile technology to this area would be a major step forward for the application of VR to **medicine**. While this is a very specific application, the underlying technological solutions developed for this will have much broader application to those tasks and activities which involve human touch in a virtual environment. This challenge calls for solutions which explore the development of tactile transmission perceived in real-time, with the application enabling a doctor to measure the softness of parts of the human body remotely. The doctor's evaluation will not be to diagnose critical conditions; rather as a test for the effectiveness of the tactile experience under non-critical situations.



# Immersive Retail



- The evolution of digital technology and e-commerce has allowed consumers not only to make transactions from the comfort of their homes but also to browse, examine and in some cases modify the goods they are interested in. One of the major drawbacks of the digital retail experience however is the loss of the benefits associated with the “in-store experience” where users can get a far greater sense of the product’s look and feel, detailed features, scale and its general physical context
- An immersive and interactive platform, tool or service could enrich the consumer e-retail experience, inspiring creative choices and helping reduce the amount of returns and customer error in decision making. Such a platform might:
  - Allow users to interact with items in an immersive environment which captures the advantages of the in-store experience and combines it with the power of digital technology
  - Stimulate consumers’ imaginations and give them more detailed information than was previously possible
  - Have the capability to offer a retail solution which might be applicable in multiple retail contexts

# Smart Construction



- Immersive technologies will play an increasingly important role in manufacturing, construction and major infrastructure projects. One example in the UK is the development of a major new railway in London and South East England: Crossrail.
- Crossrail and its partners are already pioneering the use of Augmented Reality (AR) and the production of 3D Building Information Modelling (BIM) models is a handover requirement from each of their construction contracts, to support visualisation of project delivery. This means that Crossrail already has access to rich environments to support AR or Virtual Reality (VR) applications.
- In this context immersive technologies such as Virtual Reality or Augmented Reality could be used for
  - daily site briefings, safety briefings, and to show progress against plan.
  - A to plan testing, allowing visualisation of the systems and assets, as they are integrated to operational level.
  - to improve visualisation of intended operating parameters, and comparison with actual asset operation.
  - to potentially assure their own readiness through training staff
  - to plan maintenance activities, giving consideration to safety of the working space, and complexity of maintenance activity

# Contributors



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I2C

Thanks  
for  
your  
attention !