

Erasmus Centre for Data Analytics

Hands-on preparation for a data-driven future

Leadership Programme

Realizing value from

Immersive Technologies (XR) and (generative)AI

Partners:

AI, Data &
Digitalisation

 **TU Delft**

Erasmus MC
Universitair Medisch Centrum Rotterdam


erasmus


REBLIKA


360FABRIEK

 SENSEGLOVE

BROKEN EGG


dutchrosemedia
AUGMENTED REALITY


VRDAYS
FOUNDATION

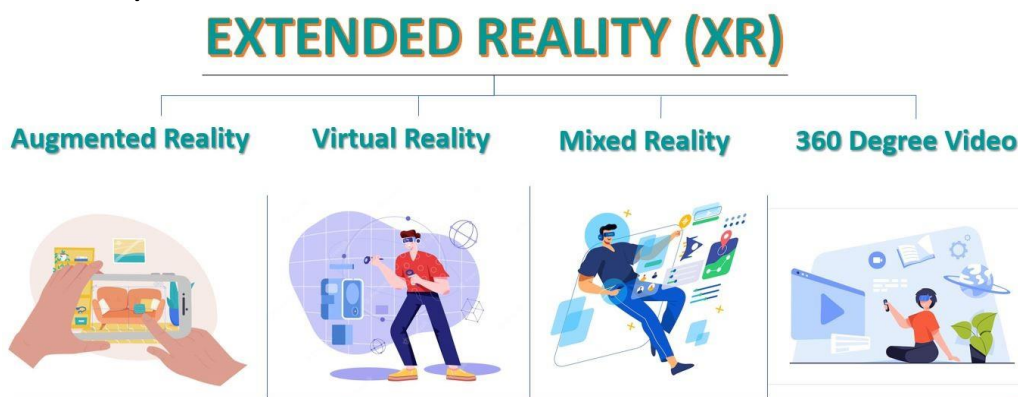


Gemeente
Rotterdam

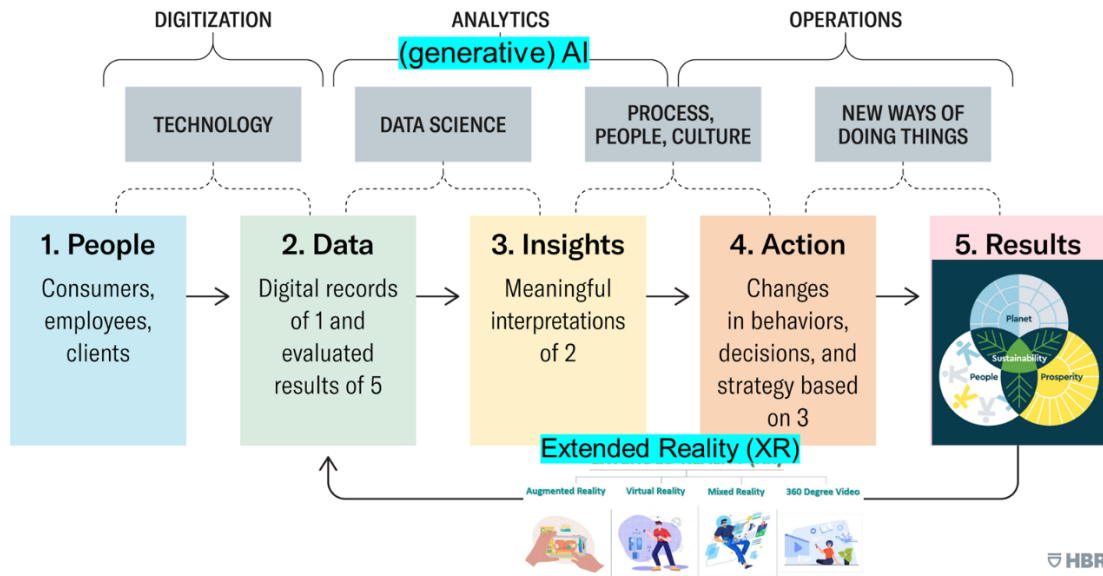
1. Introduction

Immersive technologies refer to technologies that aim to immerse users in a digital or simulated environment, creating a sense of presence and engagement. These technologies leverage various sensory channels, such as visual, auditory, and sometimes tactile feedback, to create a more immersive experience. Some of the key immersive technologies include:

- **Virtual Reality (VR):** VR technology uses headsets or goggles to create a fully immersive experience. This can be a 360-degree photo or video, or a computer-generated environment. Depending on the used technique and the content, users can interact with and navigate through this virtual space as if they were physically present.
- **360-Degree Video:** This technology captures a orb-like and frameless view of an environment using multiple cameras, enabling users to explore the surroundings in a 360-degree manner. It is often used in virtual tours, documentaries, and other immersive content.
- **Augmented Reality (AR):** AR overlays digital objects, personae, or information onto the real-world environment, enhancing the user's perception of the physical world. AR is often experienced through devices like smartphones, tablets, or AR glasses.
- **Mixed Reality (MR):** MR combines elements of both VR and AR, allowing users to interact with both digital and real-world elements in the same environment. Microsoft's HoloLens, Apple Vision Pro and Oculus Quest 3 are examples of a mixed reality devices.
- **Spatial Computing:** Spatial computing refers to the use of digital technologies to interact with and manipulate the space around us. It includes technologies like VR, AR, and MR that enable users to engage with a spatially aware digital environment.
- **Haptic Feedback:** Haptic technology provides tactile feedback to users, simulating the sense of touch. This can include sensations like vibrations, pressure, or resistance, enhancing the immersive experience by adding a sense of physical interaction.
- **Digital avatars / virtual humans and chatbots**



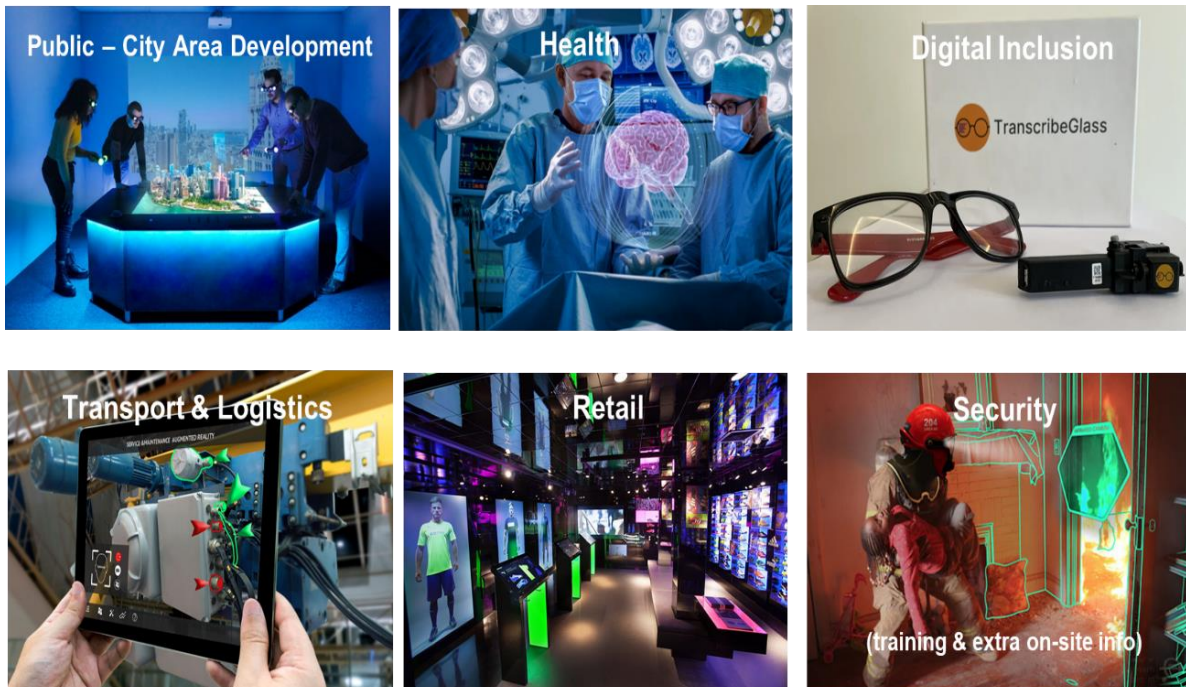
These immersive technologies, together referred at as XR (Extended Realities), find applications in various fields, including gaming, education, healthcare, training, simulations, and entertainment, among others. They continue to evolve, offering new possibilities for how people interact with digital content and the world around them. The combination of XR, powered by (generative) artificial intelligence (AI) creates a lot of new opportunities.



Context – digital transformation (adapted from HBR)

There are several ways in which these technologies can complement and enhance AI, such as use in Training and Simulation, Data Visualization and Analysis, Human-Computer Interaction, Gesture and Voice Control for more natural and intuitive experiences, emotion recognition and personalized experiences, adaptive Learning Environments, virtual storytelling, remote collaboration, avatars and Chatbots, healthcare and Therapy and real-time Assistance and Guidance.

By combining immersive technologies with AI, corporates, educators and the public domain can unlock innovative solutions that improve training, decision-making, collaboration, and overall user experiences. This synergy has the potential to revolutionize various sectors, from education and healthcare to enterprise and entertainment.



Examples of application domains and use cases for immersive technologies

This programme is designed to help organizations in understanding the technologies and develop a strategy and innovation approach in realizing value from these technologies.

2. Learning Objectives of the programme

The programme has six learning objectives:

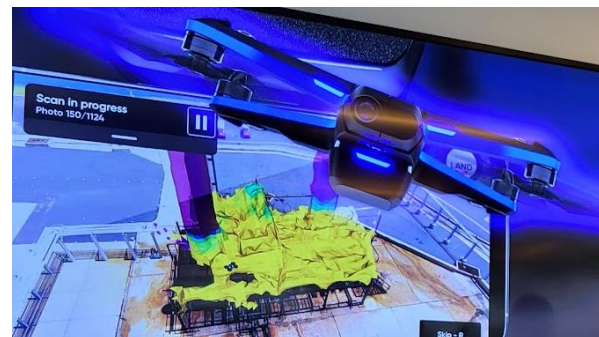
1. Inspire participants into the potential use and impact of Immersive Technologies (in short XR) & AI across several domains and use cases.
2. Create understanding in how to build a digital AI/XR strategy and realize value from the use of AI and immersive technologies.
3. Develop a critical perspective, understand dilemmas and risks in the use of these technologies.
4. Create understanding in the technology stack and organizational transformation & experimentation approaches.
5. Learn from industry peers, academics and XR startups.
6. Build a community of early adopters, changemakers and innovators.



3. Unique elements of the programme

The programme is developed and offered by academics and experts on digital strategy, innovation, generative AI and immersive technologies. It offers the following unique elements:

1. Holistic set-up with wide range of topics that will be covered.
2. Try out and be inspired by immersive tech technologies and demos.
3. International renowned guest speakers and Faculty.
4. Participants work in small teams and apply learnings to their own AI/immersive technology project.
5. It inspires participants through peer-learning and an outside-in perspective.
6. Due to the setup the programme is also interesting for international audience.
7. Site visit in Rotterdam to immersive experience.
8. Connect with peers and alumni during the Immersive Tech Week in Rotterdam (tickets included)
9. Optional engagement with student teams for ideation and POC development



Example of digital human/avatar (© Reblika) / Drone technology for object scanning (© 360Fabriek)

4. Who should attend?

Leaders and practitioners working in

- educational institutes.
- retail industry (production, trade, wholesale, retail, instore solution providers).
- transport, logistics, warehousing, mobility, supply chain orchestration.
- health (hospitals, medical devices, insurers, healthcare providers).
- government (cities, province, Ministries) responsible for policy making, planning, city management.
- Culture and creative sector (e.g. museums).

The ideal team composition consists of the following roles:

- Content designers & developers
- Innovation leads
- Digital
- Business / policy maker (internal customer)

An internal sponsor (e.g. CDO/CIO/CTO etc.) will join during dinner and during the final pitch session.



Trying out some of the latest technologies during the programme

The programme is offered in two possible set-ups:

- (1) Open programme: enrolment with participants from different backgrounds (with variety of examples)
- (2) Customized programme: enrolment with participants from one organization or one domain (such as education, health, public infrastructure etc.) with examples from the specific domain.

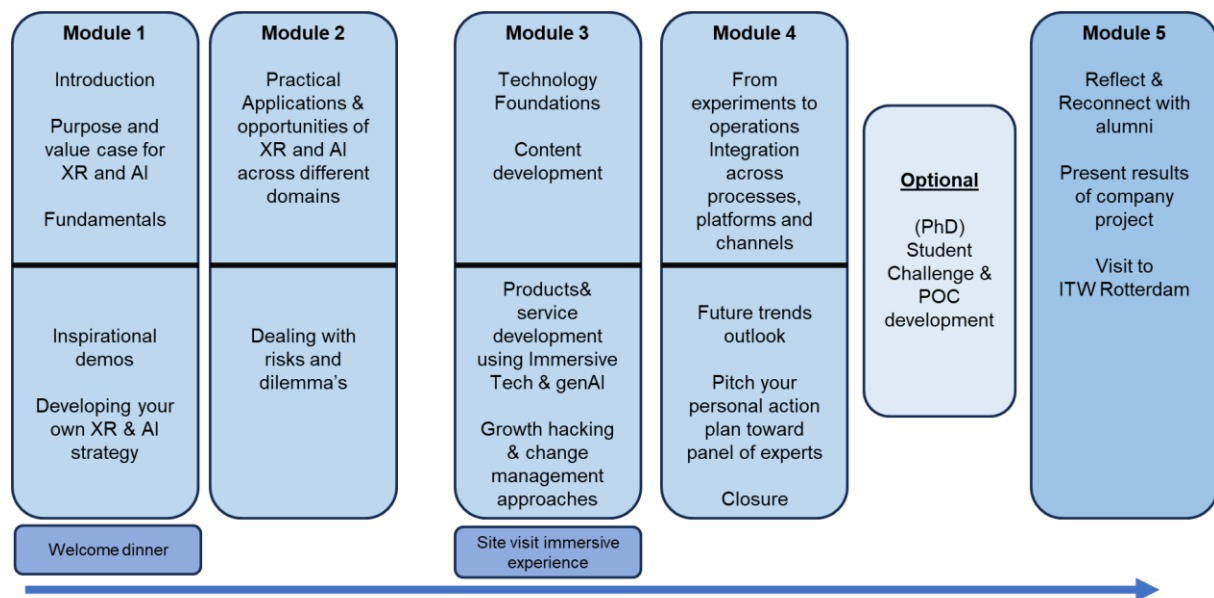
5. AI/XR innovation project

Participants bring their own AI/XR innovation challenge or opportunity to work on during the programme. Throughout the programme there are several exercises and reflection sessions, where participants receive coaching and peer feedback on their project. At the end of the 4 days, programme participants create a short pitch presentation with an action plan including learnings they take back to their organization. During the get back session participants are asked to present initial results, such

as a POC of the project they are working on. Between module 4 and the get back session the opportunity is offered to work with a team of students to develop a proof of concept.

6. Programme Design

The pilot edition of this programme starts on Thursday September 19, 2024¹. The programme is organized by the Erasmus Centre for Data Analytics and hosted in the Immersive Tech Lab and XR Learning community of the Erasmus Data Collaboratory, Erasmus University Rotterdam. The programme structure is as follows:



The detailed structure is described below:

Module	Topic	Subtopics	Date / Time
1a	Welcome Introduction	<ul style="list-style-type: none"> Get to know each other What is the added value and purpose of Immersive technologies combined with data & AI? Crash course Immersive Thinking (first person perception of space) Developing a digital strategy 	19-9-2024 900-1230
1b	Demos Develop your strategy	<ul style="list-style-type: none"> Inspirational demos AR & VR use cases In class activity: How to link it to your own immersive tech & AI strategy 	19-9-2024 1330-1730
	Welcome dinner		19-9-2024 1800-2100
2a	Applications and opportunities	<ul style="list-style-type: none"> Welcome and recap module 1 Examples and guest speakers (tech / startups) from different domain specific use cases and opportunities, including process, education/training, interaction and PR/promotion with examples from education, retail, healthcare, public/ art and logistics. 	20-9-2024 900-1230
2b	Risks and dilemma's	<ul style="list-style-type: none"> Dealing with AI and Immersive Tech risks and dilemma's, including ethics, user privacy, sustainability, health, digital inclusion, hacking 	20-9-2024 1330-1730

¹ Depending on number of registrations (minimal class size 15 participants)

Module	Topic	Subtopics	Date / Time
		<ul style="list-style-type: none"> Discuss in groups 	
3a	Technology foundations	<ul style="list-style-type: none"> Welcome and recap module 1-2 Building the technology foundation, managing content creation and development. Immersive Environments & Data Visualization: Linking data to (gen)AI to Immersive technology Immersive Tech and (gen)AI landscape and solutions 	3-10-2024 900-1230
3b	Products and service development approaches	<ul style="list-style-type: none"> Products & Service development using AI and Immersive Tech Setting up a structure for experimentation & innovation Growth hacking & change management approach Exploring the impacts on customers/employees' behaviour 	3-10-2024 1330-1730
	Visit to immersive experience	<ul style="list-style-type: none"> Visit to immersive experience Dinner 	3-10-2024 1800-2100
4a	From experiments to scaling and implementation	<ul style="list-style-type: none"> Welcome and recap module 3 Moving from experiments to operations Integration across processes, platforms and channels Guest lecture -experiences from practice In class exercise: Developing an actionable implementation plan 	4-10-2024 900-1230
4b	Future Trends Action plan pitches	<ul style="list-style-type: none"> Future trends outlook – by inspirational speaker Pitch Session: Pitch your personal Action plan toward panel of experts Closure event , handout certificates, drinks and bytes 	4-10-2024 1330-1730
5	Reconnect with alumni Visit to ITW	<ul style="list-style-type: none"> Welcome alumni Workshop sharing learnings. Reflection on personal action & Implementation plans Visit to Immersive Tech Week Rotterdam / expo 	4-6 December 2024

7. Key Faculty and Speakers



Prof. Ting Li is the Professor of Digital Business at Rotterdam School of Management (RSM), Erasmus University. She is the founding member and the Academic Director of Digital Business Practice of the Erasmus Centre for Data Analytics. Ting Li is an expert in Digital Strategy, Ecommerce, Social Media Analytics, Mobile Marketing, Business Analytics, Online Advertising, and Pricing and Revenue Management. She has been a Visiting Professor at the Wharton School of Business, Temple University, Arizona State University, City University of Hong Kong, and Tsinghua University. In 2017, she was named by Poets & Quants as one of the Top 40 Professors Under 40 Worldwide



Prof. Yvonne van Everdingen is Professor of Marketing and Innovation at Rotterdam School of Management, Erasmus University. Professor Van Everdingen leads the expert practice on Immersive Technologies of the Erasmus Centre for Data Analytics. She is member of the Special Interest Group Virtual Reality (SIG VR) at the Erasmus Behavioral Lab. Her research interests include the international adoption and diffusion of new products, the use of new technologies, such as virtual reality and augmented reality, for the

development and marketing of new products, and the marketing of refurbished products



Prof. Elmar Eisemann is a professor at TU Delft, heading the Computer Graphics and Visualization Group. Before he was an associated professor at Telecom ParisTech (until 2012) and a senior scientist heading a research group in the Cluster of Excellence (Saarland University / MPI Informatik) (until 2009). His interests include real-time and perceptual rendering, visualization, alternative representations, shadow algorithms, global illumination, and GPU acceleration techniques



Prof. Pablo Cesar leads the Distributed and Interactive Systems (DIS) group at Centrum Wiskunde & Informatica, CWI, (The National Research Institute for Mathematics and Computer Science in the Netherlands). He is Professor ("Human-Centered Multimedia Systems Chair") at TU Delft, in the Multimedia Computing group. His research combines human-computer interaction and multimedia systems, and focuses on modelling and controlling complex collections of media objects (including real-time media and sensor data) that are distributed in time and space.



Frederike Manders is Immersive Tech Programme Manager of the Erasmus Centre for Data Analytics. In this role she provided advisory support to ErasmusX and ECDA, concerning immersive tech content and programs. This includes guiding experiments at the intersection of immersive technology and education. Frederike is CEO of MaMaProducties.



Jan Verwoerd is founder of 360Fabriek, an Immersive Media Studio based in Rotterdam.

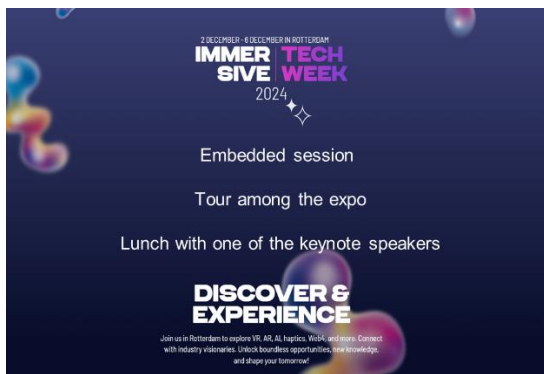
8. Programme Fees and class size

The programme fee for the open enrolment of this leadership programme is **4.000 euro (excl VAT)**. Teams with 3 or more persons receive a discount of 10 %. This fee includes

- access to the online learning environment and materials
- four lunches and 2 dinner sessions
- ticket to the Immersive Tech Week in Rotterdam
- Embedded alumni session during the Immersive Tech Week in Rotterdam.

Minimal class size is 15 persons, maximum class size is 25 persons.

Fees for customized programs are discussed, based on a proposal of the required programme design.



9. Information and registration

Information on the programme including new dates.



Programme Lead

Frederike Manders
Immersive Tech programme manager ECDA

Email: f.c.manders@rsm.nl



Dr. Marcel van Oosterhout
Executive Director

Erasmus Centre for Data Analytics

Email: moosterhout@rsm.nl

© 2024 Erasmus Centre for Data Analytics (ECDA). The information in this brochure is correct as of **April 4, 2024**, but ECDA reserves the right to make changes affecting policies, curricula or speakers announced in this brochure without further notice. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise without written permission from ECDA.