

FUTUREbio

PR4

FutureBio VR Transferability Guide

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REVISION SHEET

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1. Introduction

This guide has been written to support integrating VR training into teaching. The guide provides both technical instructions as well as pedagogical tips utilizing the FutureBio applications in teaching. The guide gives answers to four questions:

- What are the materials created in FutureBio?
- How can I access the materials?
- How do I interact with the materials?
- How should I utilize the materials in teaching?

2. What are the materials created in FutureBio?

In essence, the materials created in FutureBio are 360 images taken in several different bioplastic research laboratories in the partner organizations: University of Trento and FBK. The photographs are presented in a VR application for an immersive viewing experience, but they can also be viewed through a website.

The images allow users to get a virtual tour in the laboratories while learning about the technology and methodologies utilized there. Several types of materials have been created using the same 360 imagery: some of the materials are aimed for bioplastic professionals, some for teachers and some for students. Even though the 360 images don't change, all the attached information changes depending on the context.

3. How can I access the materials?

The materials created in FutureBio have been published in the Meta Store for VR, and on a webpage for more traditional access. Below are the instructions for accessing the material on both technologies.

3.1. VR

For VR, the FutureBio 360 materials can be accessed on Meta Quest 2, Meta Vision Pro and Meta Quest 3 goggles through the Meta Store.

You can install the application on your goggles by one of two ways:

- Either visit the application's Meta Store page on your mobile phone or desktop by visiting the store page and adding the application to your account. [Click here to access the store page.](#)
- Or you can put on your VR headset, go to the Meta Store inside the VR operating system and then search for "FutureBio". The application is released in the Meta App Lab.

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3.2. Web

For desktop and mobile use, the FutureBio 360 materials can be found by visiting the link at: <https://ctrl.studio/play/futurebio> or by embedding the content using an iframe to any web page.

The website does not require a login of any sorts, so feel free to share the link with fellow teachers and students alike!

4. How do I interact with the materials?

This section only describes the functionality of the FutureBio 360 materials. For general information regarding VR goggles, please refer to the Meta documentation: <https://www.meta.com/en-gb/help/quest/articles/getting-started/>

This chapter is split into two sections, one for VR and one for Web:

4.1. VR

After installing the application on your VR headset (please refer to the previous section), launch the application and you will arrive at the lobby of the application. The lobby shows all of the different experiences available in the application. You can select one experience by pointing at it with your controller and then clicking the trigger button with your index finger. This will load that experience and place you inside a 360 image.

Once inside a 360 image, remember that the images are truly 360 degrees. You can and should look all around you, up and down. As well as the 360 image, you might see orange circles floating around you. You can open them by pointing at them with your controller to see the information attached to them. Some of the points contain written information, some images and some even videos. The content of these information points changes depending on the launched experience.

4.2. Web

Upon accessing the immersive VR website via your PC browser, you'll be greeted with an interface reminiscent of a virtual lobby. This digital space showcases a variety of immersive experiences available on the website. Navigate through these experiences using your mouse or trackpad to hover over and select your desired option.

Upon selecting an experience, you'll be transported into a 360-degree environment. Once inside, take advantage of the full panoramic view by using your mouse or trackpad to look in all directions – up, down, and around.

In addition to the immersive environment, you may notice floating orange markers within the scene. These markers contain additional information that can be accessed by clicking on them with your mouse cursor. The information within these markers may include text, images, or videos relevant to the selected experience.

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It's important to note that the content within these markers will vary depending on the specific immersive experience you've chosen on the website. Enjoy your exploration of the immersive VR website directly from your PC browser!

5. How should I utilize the materials in teaching?

FutureBio offers a wealth of immersive materials created from 360 images captured in various bioplastic research laboratories affiliated with partner organizations such as the University of Trento and FBK. These materials, accessible both through a VR application and a website, serve as invaluable resources for educators looking to incorporate innovative teaching methodologies into their curriculum.

The utilization of the materials in teaching depends on whether you have VR headsets available or not. Viewing the materials in VR can be compared to actually visiting the laboratories in real life, due to the high level of immersion VR headsets can cause. One can be sure that students really are focused on the subject when it is presented in VR!

Accessing the materials through a web browser makes it possible to go through the materials in front of the classroom by sharing a screen, or have each student access the material on their own computer or mobile device. Doing it this way does have the problem of not being able to control what the students are looking at, or whether they are focused at all.

Here are some strategies for effectively utilizing these materials in teaching:

- 1) **Virtual Laboratory Tours:** Introduce students to the world of bioplastic research by taking them on virtual tours of the laboratories featured in the FutureBio materials. Encourage them to explore the 360-degree images, providing them with a firsthand look at the technology and methodologies utilized in these laboratories.
- 2) **Interactive Learning Experiences:** Engage students in interactive learning experiences by incorporating the immersive materials into classroom activities. Encourage them to interact with the virtual environment, explore different aspects of bioplastic research, and discover the underlying principles and techniques.
- 3) **Contextualized Learning:** Tailor the use of FutureBio materials to suit the specific needs and interests of your students. Whether they are bioplastic professionals, teachers, or students, ensure that the information provided alongside the 360 images is relevant and contextualized to their level of understanding and expertise.
- 4) **Multidisciplinary Approach:** Embrace a multidisciplinary approach to teaching by integrating the FutureBio materials across various subject areas. Explore connections

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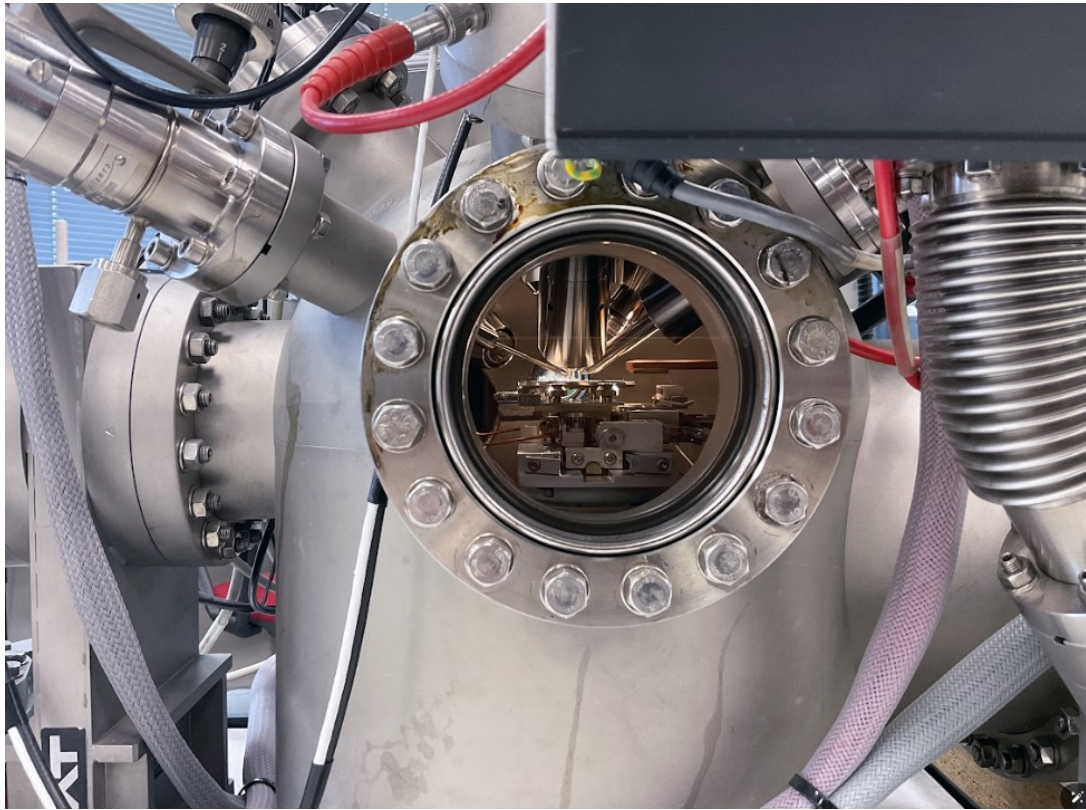
between bioplastic research and subjects such as biology, chemistry, environmental science, and sustainability, fostering a holistic understanding of the topic.

- 5) **Project-Based Learning:** Encourage project-based learning initiatives where students can apply their knowledge gained from the FutureBio materials to real-world scenarios. Challenge them to design and implement their own bioplastic experiments, fostering creativity, critical thinking, and problem-solving skills.
- 6) **Assessment and Reflection:** Incorporate assessments and reflection activities to gauge students' understanding and engagement with the FutureBio materials. Encourage them to reflect on their virtual laboratory experiences, analyze the information presented, and articulate their insights and observations.

By incorporating FutureBio materials into your teaching practices, you can enhance the learning experience, foster curiosity and exploration, and empower students to become active participants in the field of bioplastic research. Explore the possibilities and unleash the potential of immersive learning about the development and use of bioplastics with FutureBio VR content.



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Scenario management interface showing Scenarios, Phases, and Details panels.

Scenarios		Phases		Details	
Name	Create	Name	Create	ID	copy Collections
Lab tour for the university teachers		Photo 1		TnDTdS8fWr8RNZ6q	
Lab tour for the university students		FBK_lab1			
Lab Tour for Expert Visitors		Photo 2			
Common Challenges		FBK_lab2			
Gamified Tour		Photo 3			
Industrial Tour		UniTN: Polymers&Composites Lab			
FBK Labs		UniTN: Processing Lab			
Uni Trento Labs		UniTN: Thermal Characterization Lab			
Napoli		UniTN: Mechanical Testing Lab			

Tools

- Preview
- Stage Canvas Overlay Narration
- Add translation: English

Common ▼

Content ▼

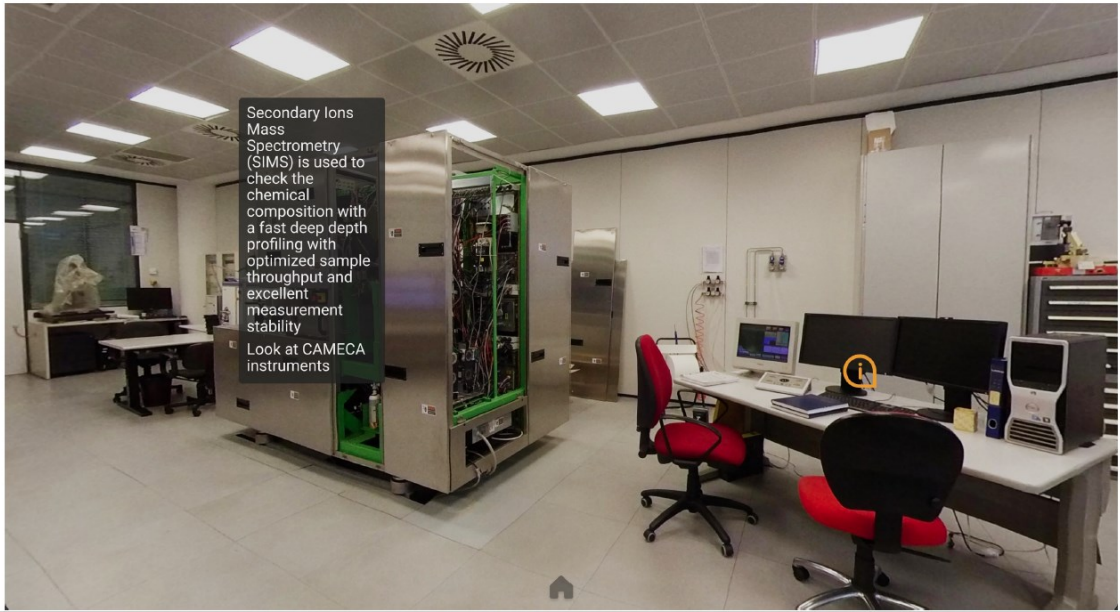
Environment ▼

Viewing ▼

Advanced ▼

Delete

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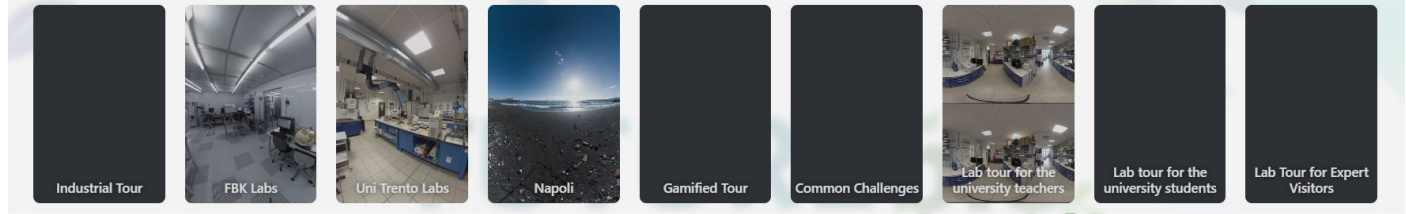
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