

DEVELOPMENT OF AUGMENTED REALITY WEB APPLICATIONS FOR THE COGNITIVE EVENTS

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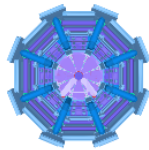


ATLAS Tracer

3-Dimensional Interactive ATLAS Detector Display



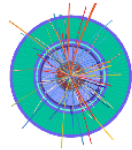
<http://tracer.web.cern.ch>



TracerCORE

Core module of
3-Dimensional Interactive
Detector Display of the
ATLAS detector

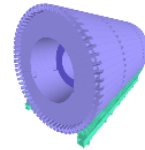
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TracerEVD

3-Dimensional Event
Display Application

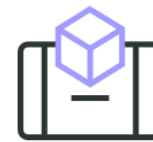
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TracerTC

3-Dimensional Interactive
Display of the Tile
Calorimeter

[Go to Application](#)



TracerART

Augmented Reality Table
enables to put detector
on the discussion table

[Go to Application](#)



TracerAR-BOOK

Augmented Reality Book
is the 3D-extension of the
paper printed
documents

[Go to Application](#)



TracerVR

Virtual Reality application
for the realistic
representation of the
digital content of
Detector in the 3D

[Go to Application](#)



TracerLND

Augmented Reality
Landscape visualize the
Detector in the actual-
scale

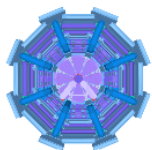
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TracerARD

Augmented Reality Door
for the navigation inside
of the ATLAS detector

[Go to Application](#)

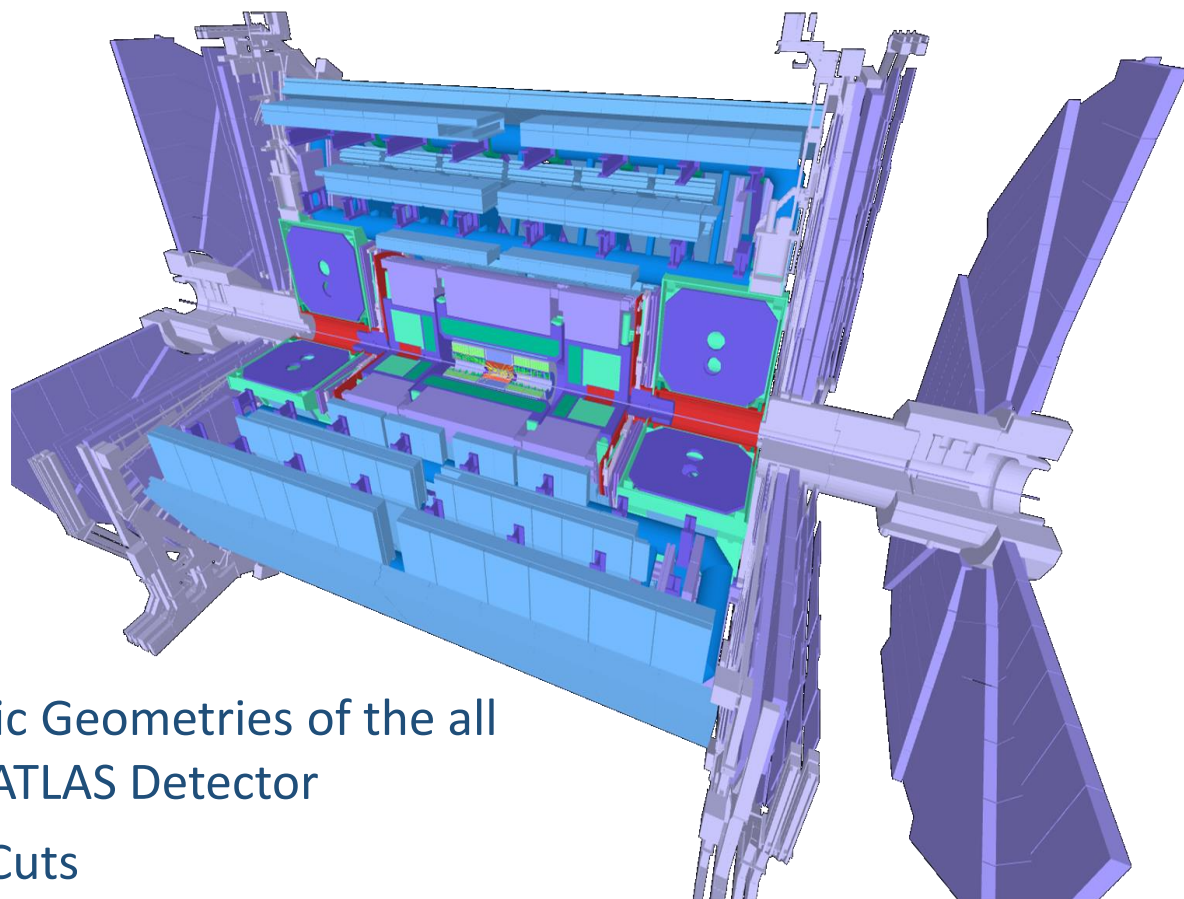


TracerCORE

Core module of
3-Dimensional Interactive
Detector Display of the
ATLAS detector

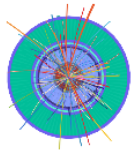
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<http://tracer.web.cern.ch>



■ Advantages of Core:

- Detailed and Realistic Geometries of the all components of the ATLAS Detector
- Realistic Geometry Cuts
- High Performance
- Well-developed Users framework

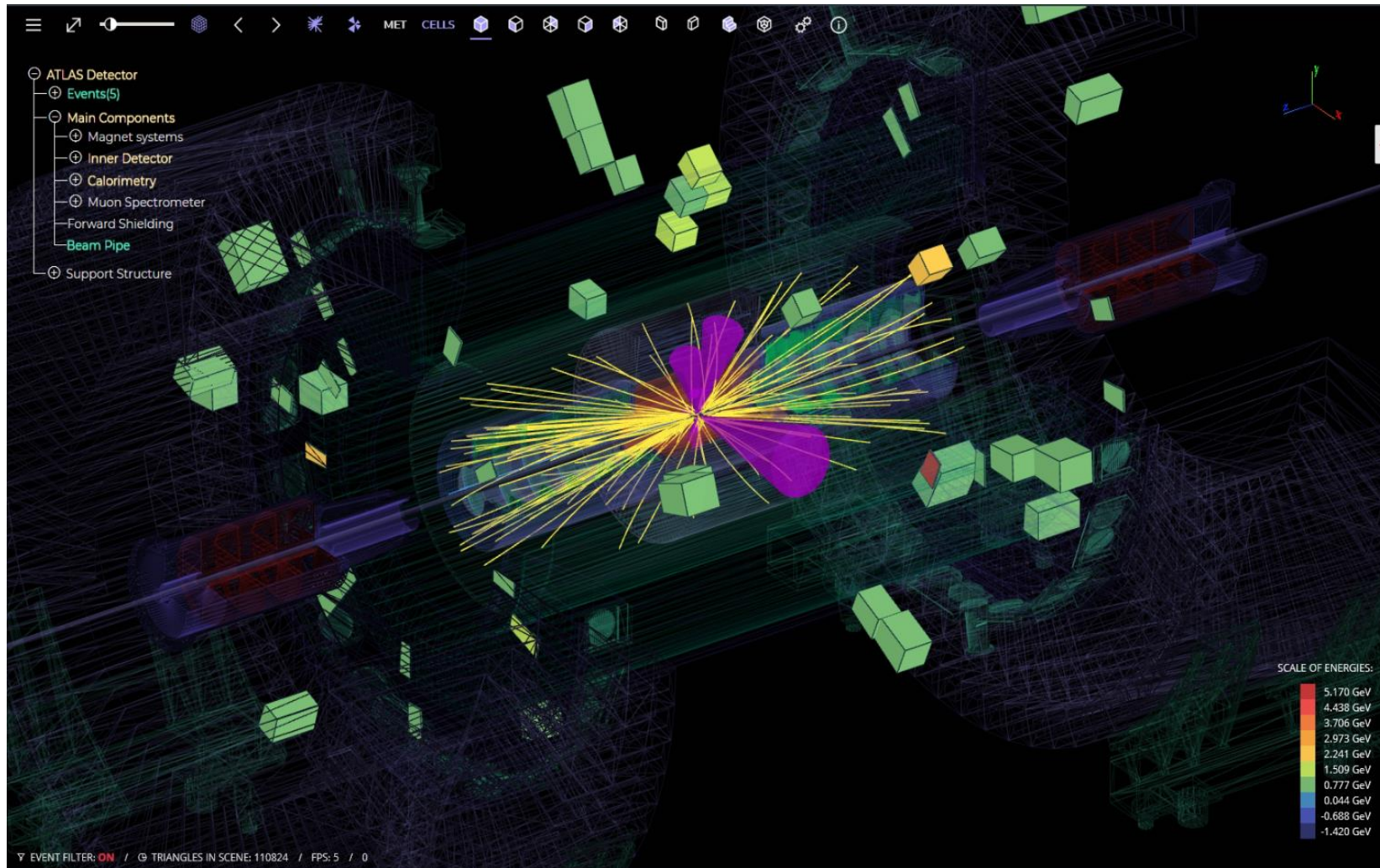


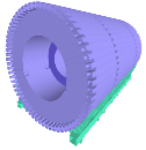
TracerEVD

3-Dimesional Event
Display Application

[Go to Application](#)

<http://tracer.web.cern.ch>



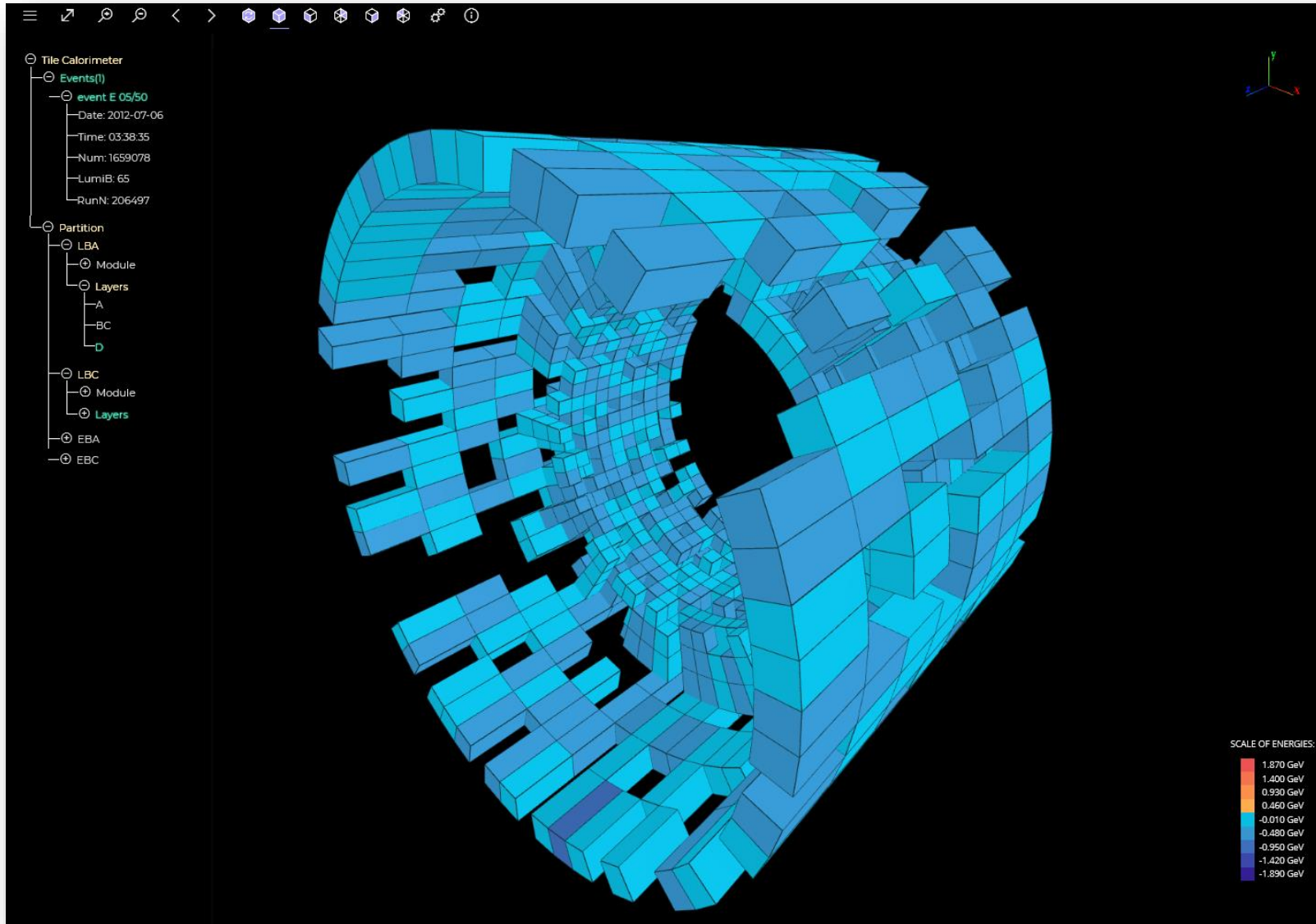


TracerTC

3-Dimensional Interactive
Display of the Tile
Calorimeter

[Go to Application](#)

<http://tracer.web.cern.ch>





TracerART

Augmented Reality Table enables to put detector on the discussion table

[Go to Application](#)



TracerART

Augmented Reality Table

Interactive application for representation and learning of the ATLAS detector facilities



<http://tracer.web.cern.ch>

Android

Installation Guide

This guide will Help you install Tracer-ART on your Android Device

Requirements

- Device running Android OS 7.0 (Nougat) or newer
- Device that Supports AR-Core [\[List\]](#)
- At least 80MB free space on device
- Browser enabled to install unknown apps

Open this webpage on your Device

[Download APK](#)

Enable Camera Access

28 April 2020

Apple (iOS)

Installation Guide

This guide will Help you install Tracer-ART on your Apple Device

Requirements

- iPhone or iPad running iOS 11 or higher
- iPhone SE / 6S / 6S+ (2015) or newer
- iPad 5 / iPad Pro 2 (2017) or newer
- TestFlight App

Open this webpage on your Device

[Download APP](#)

Enable Camera Access

28 April 2020



TracerAR-BOOK

Augmented Reality Book is the 3D-extension of the paper printed documents

[Go to Application](#)



TracerARB

Augmented Reality Book

<http://tracer.web.cern.ch>

The application visualize content of the printed documents in 3D and gives additional information about the subject

Android 

This guide will Help you install Tracer-ART on your Android Device

Requirements

- Device running Android OS 7.0 (Nougat) or newer
- Device that Supports AR-Core [List]
- At least 80MB free space on device
- Browser enabled to install unknown apps

[Download APK](#)

Enable Camera Access

Target your mobile device camera on the images below to activate 3D extensions



Dear Participant,
Cognitive Festival in Georgia is scientific and educational event based on the CERN scientific research and innovation technologies.
Festival includes 3 different events and sets objectives to provoke youth's interest in fundamental research, engineering, IT technologies and mathematics.

- 1st event is IPPOG masterclass for school children and 1st year university students
- 2nd event is the Workshop for teachers, lecturers and researchers
- 3rd event is Art@Science exhibition, where art works will be presented and discussed with their authors.

CERN Cognitive Festival will intensify connections of Georgian youth with advanced scientific schools and modern projects, expand their range of thinking and evolution. It is a unique opportunity to evaluate themselves with comparison to peers from other countries, and create greater motivation for progress. It will stimulate their formation as a full-fledged members of free society.

Professor, SHARMAZANASHVILI Alexander
Chair of Festival





TracerVR

Virtual Reality application
for the realistic
representation of the
digital content of
Detector in the 3D

[Go to Application](#)



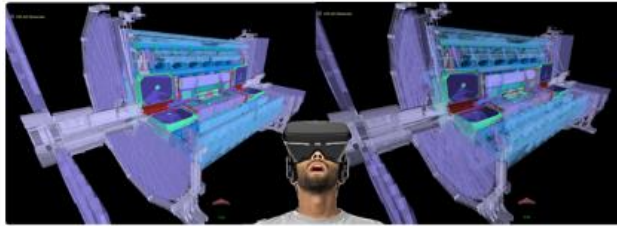
TracerVR

Virtual Reality application

<http://tracer.web.cern.ch>

Comming soon

The application enables to consider the observer as
a part of 3D scene and navigate inside the facility



Designed By NEC 2020



TracerLND

Augmented Reality Landscape visualize the Detector in the actual-scale

[Go to Application](#)



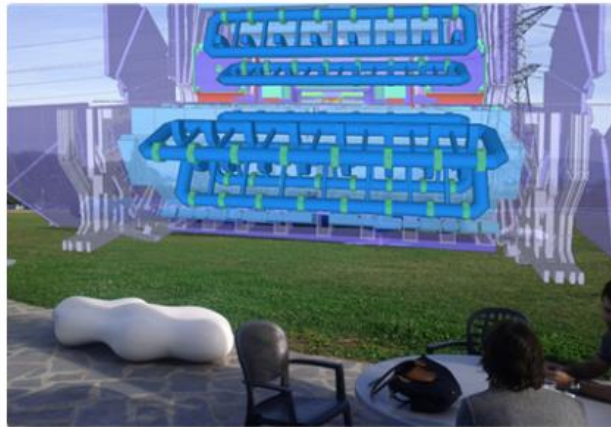
TracerLND

Augmented Reality Landscape

<http://tracer.web.cern.ch>

Comming soon

The application visualize the facilities in the actual scale in the real-life environment



Designed By NEC 2020



TracerARD

Augmented Reality Door
for the navigation inside
of the ATLAS detector

[Go to Application](#)



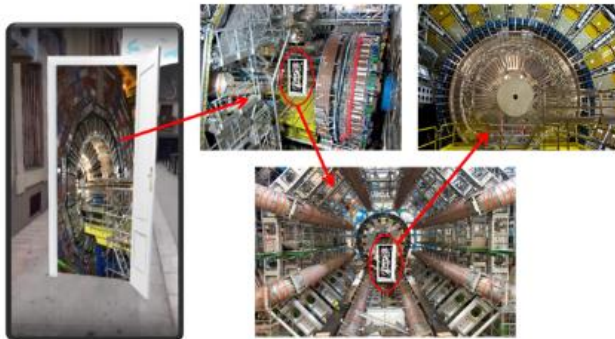
TracerARD

Augmented Reality Door

<http://tracer.web.cern.ch>

Comming soon

The application puts virtual door in the real environment and lets you enter inside the ATLAS detector. It enables to organize virtual tours inside the cavern and learning the detailed detector facilities

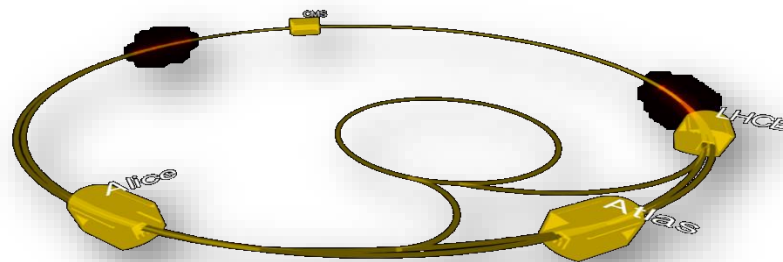
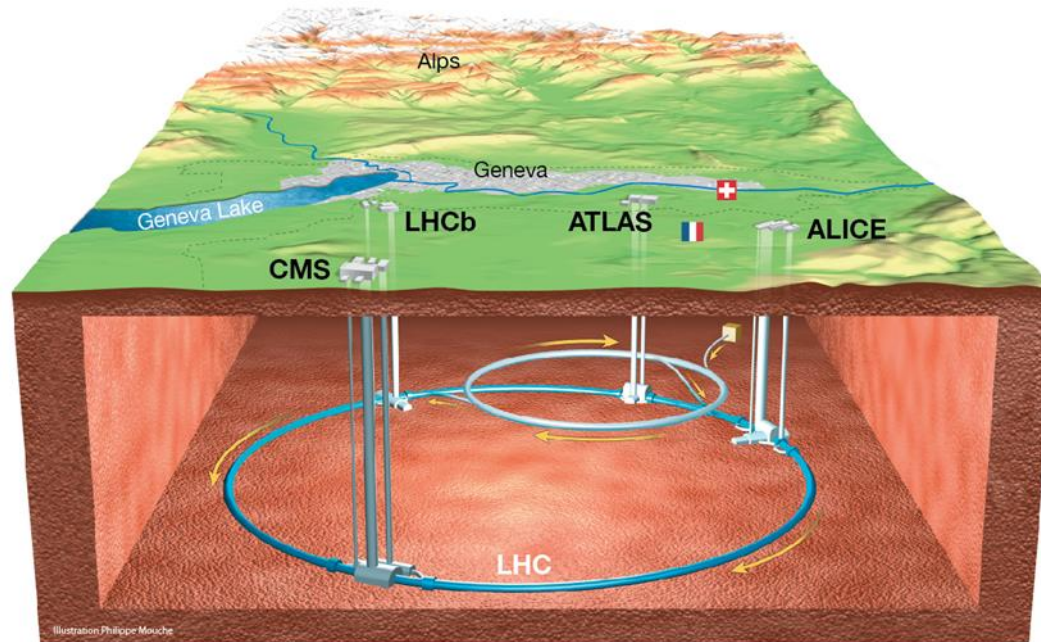


Designed By NEC 2020

- With ORIGIN Collaboration:
 - Creation of AR extension for the children book “LISA & MAX a Journey for Discovery”
 - Project leader – Michael HOCH
 - Writer – Christine MORROW
 - Illustrator – Keti MIRZIASHVILI
 - 1st draft was discussed on LHCP Paris, 29 May 2020



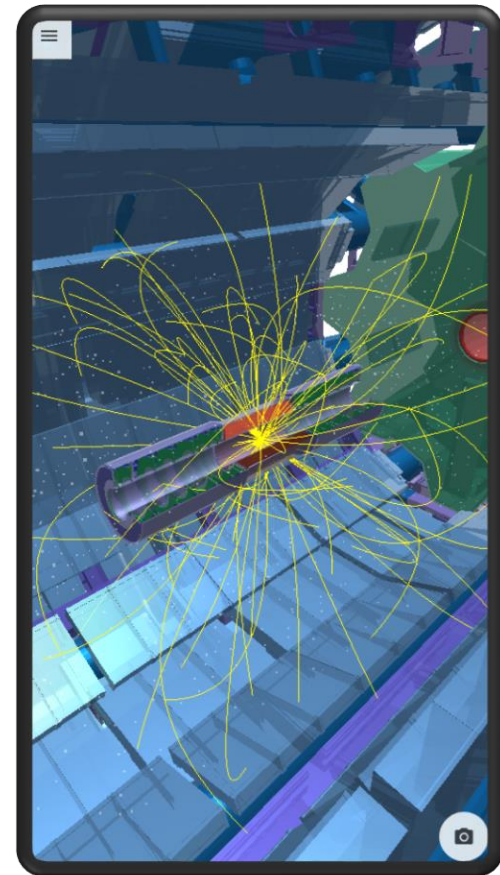
- “LISA & MAX a Journey for Discovery” - Scene#01:



<http://cadcamge.ch/st/lhc/>

“Quick-ATLAS” mobile AR Application

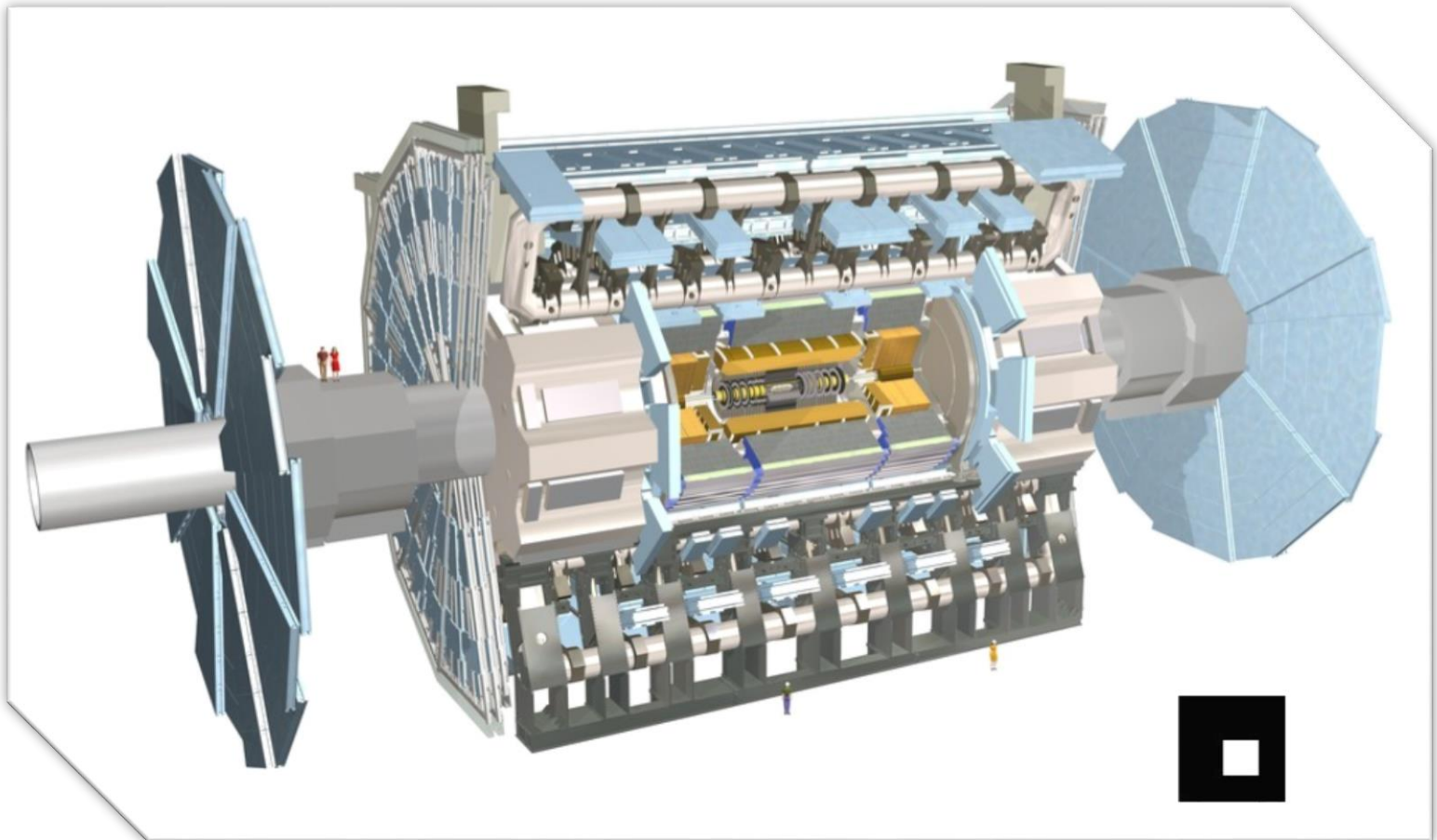
- Orbit Control is active – it means that Zoom-Rotation-Scaling is available from the screen



<https://quick-atlas.web.cern.ch>

“Quick-ATLAS” mobile AR Application

- Zoom-Rotation-Scaling is available from the Gyroscope control



<https://ar-atlas.web.cern.ch>

Thanks for your attention,

Comments are welcome

Lasha.sharmazanashvili@cern.ch