

Just For The Kick Of It - Learning by Playing

at the

CERN

Media Lab

Joao Pequeno - CERN Media Lab

INSIGHTS Workshop - 19 September 2018



**1 - GENESIS**

# The Challenges

Top Tourist Attraction

Satisfy the Public's Interest

Stay Up-To-Date

Lead in the Field



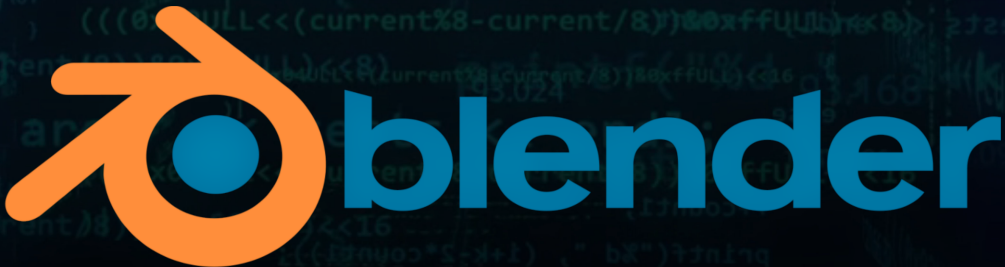
# Availability of Tools



three.js



OpenFrameworks



unity



UNREAL  
ENGINE

# The Need for a Team

Conceive

Develop

Research

Exhibit Content

Narratives

Educational Resources

State-Of-The-Art Tools

Visualizations

# CERN Media Lab - Original





**2 - STRATEGY**

# Planning Factors



Message

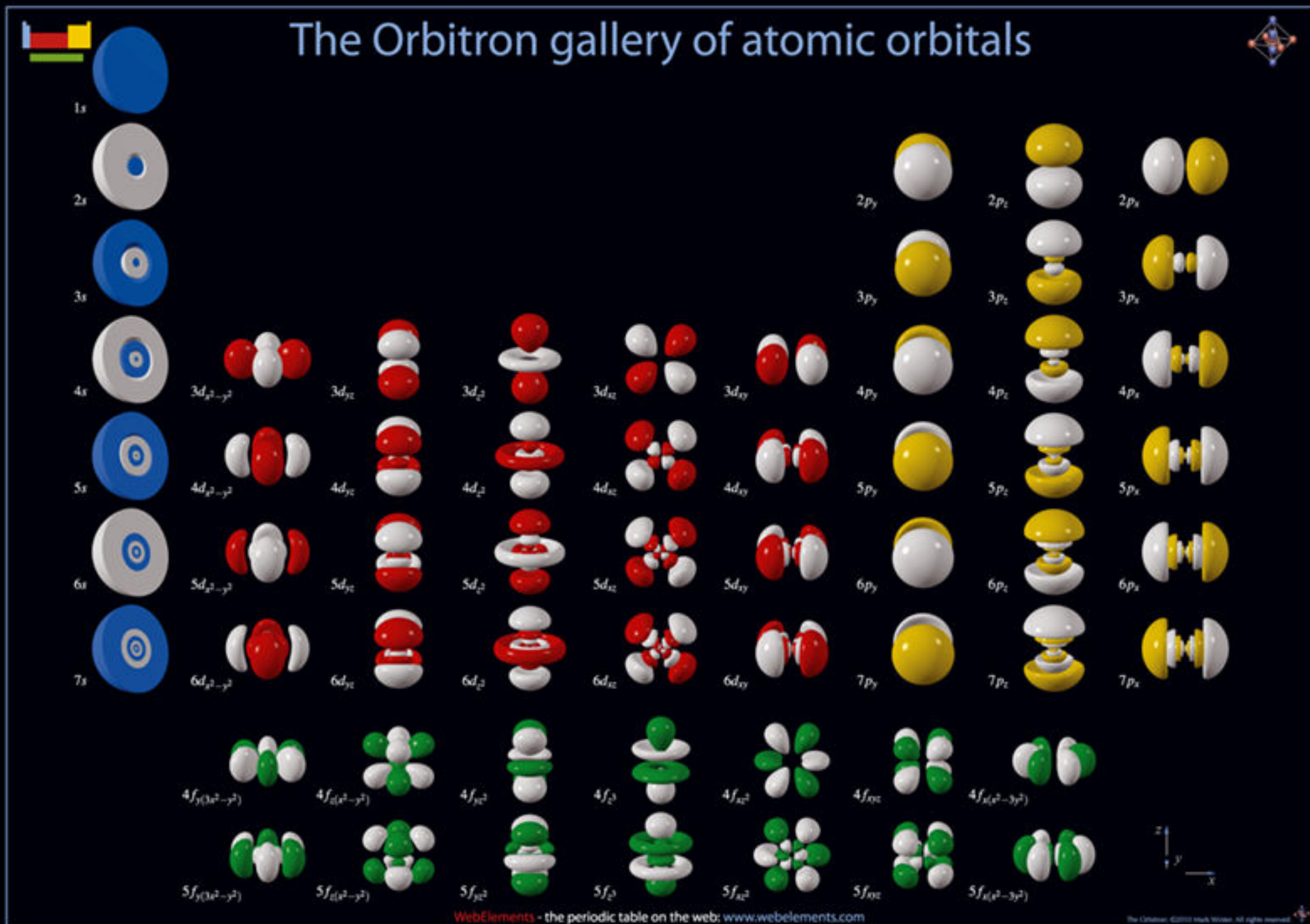
Target Audience

Placement

Cost

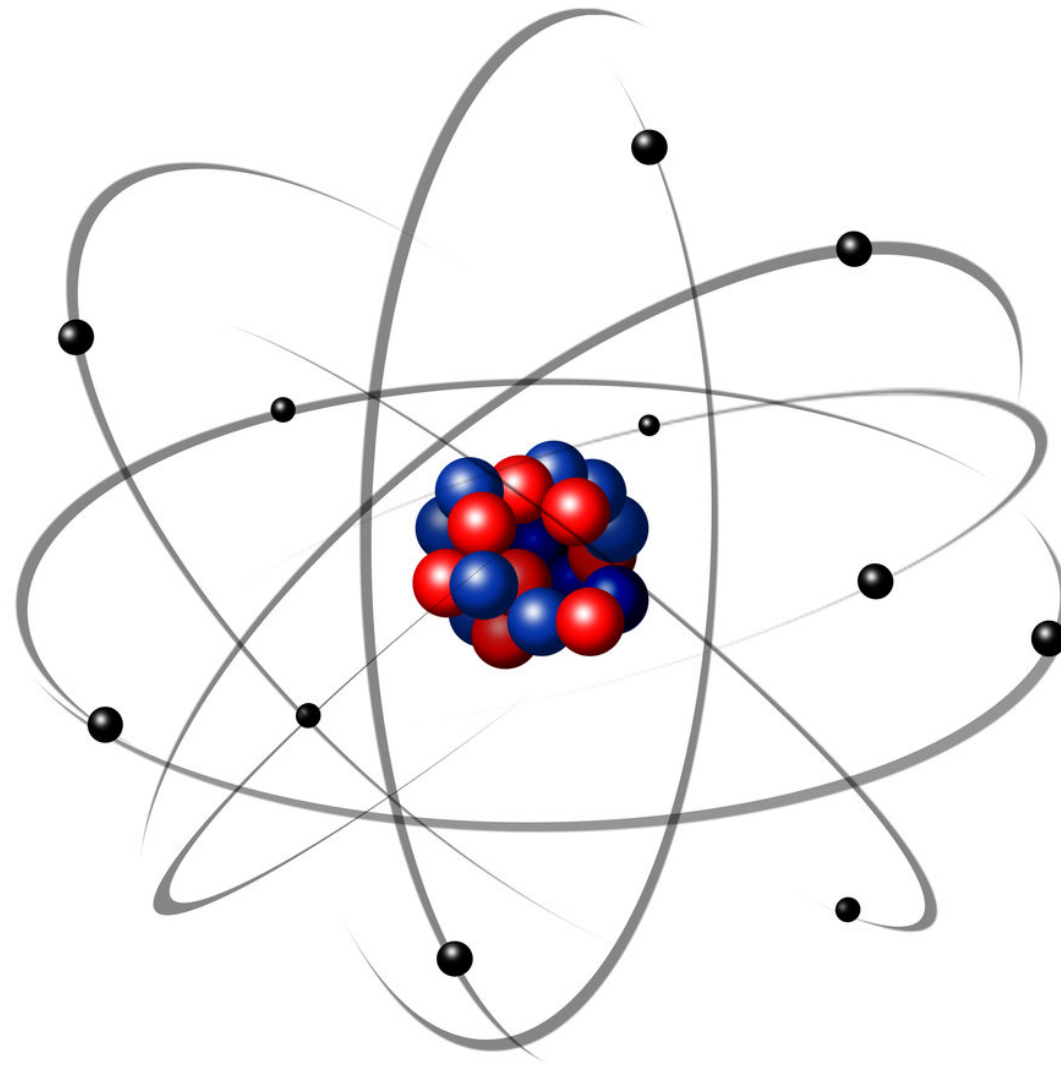


# Information



A Lot!

# Information



Selected



Engagement



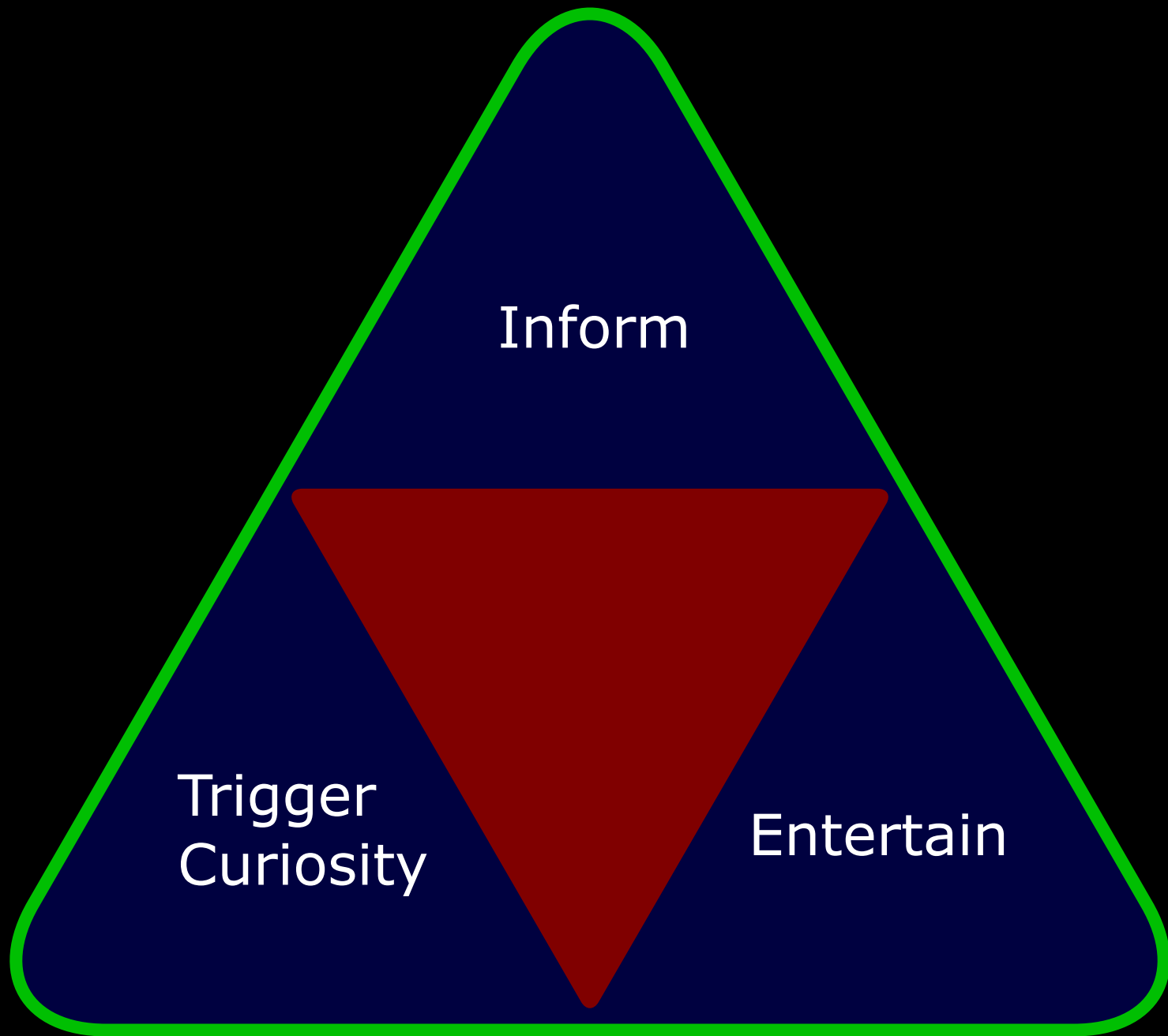
Fun and Quick

Relatability



Educational Selfie

# Balance



Inform

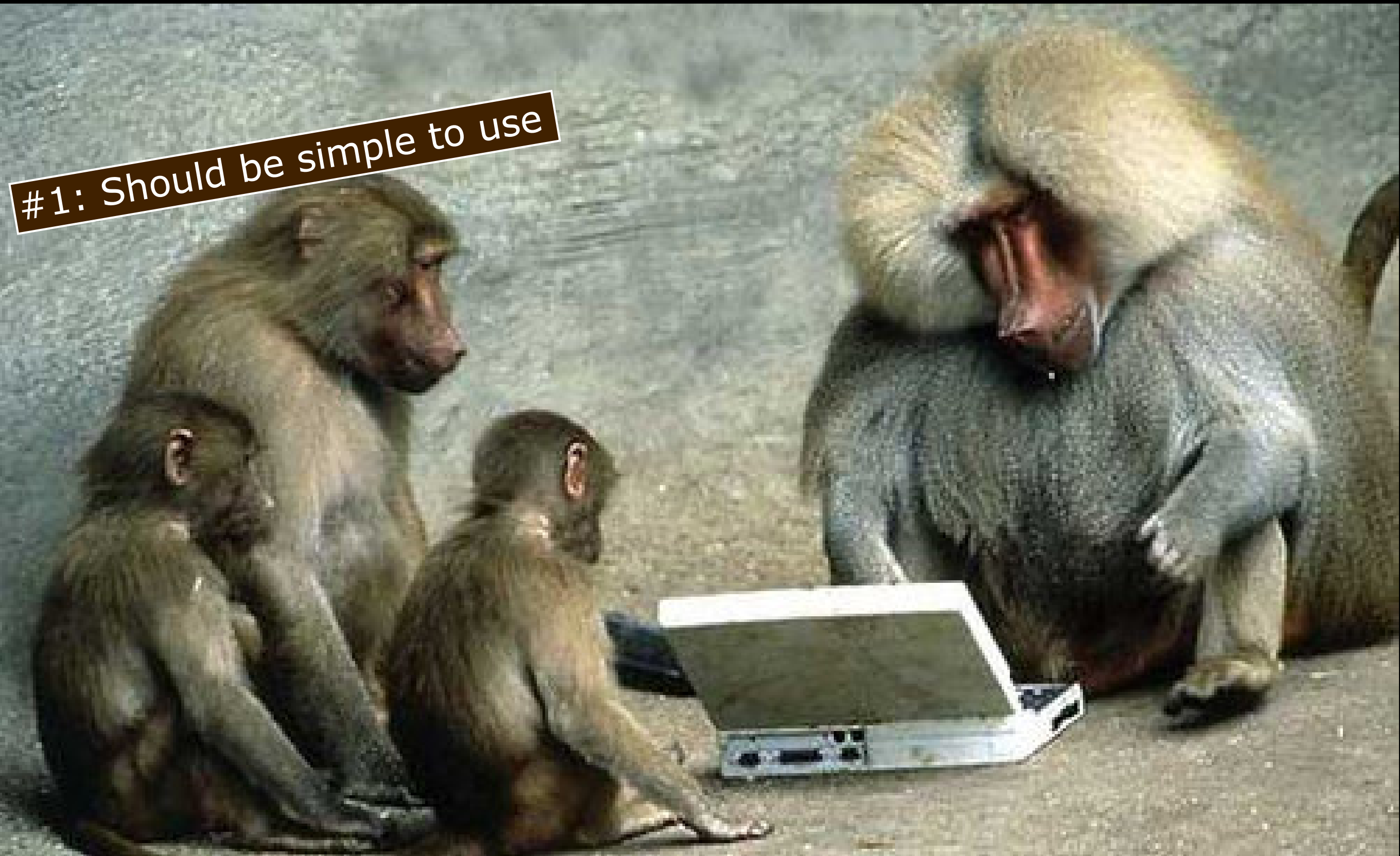
Trigger  
Curiosity

Entertain

# 3 - Dynamics Guidelines



#1: Should be simple to use



\* Actual Beta Testers



#2: Should be Visually Appealing



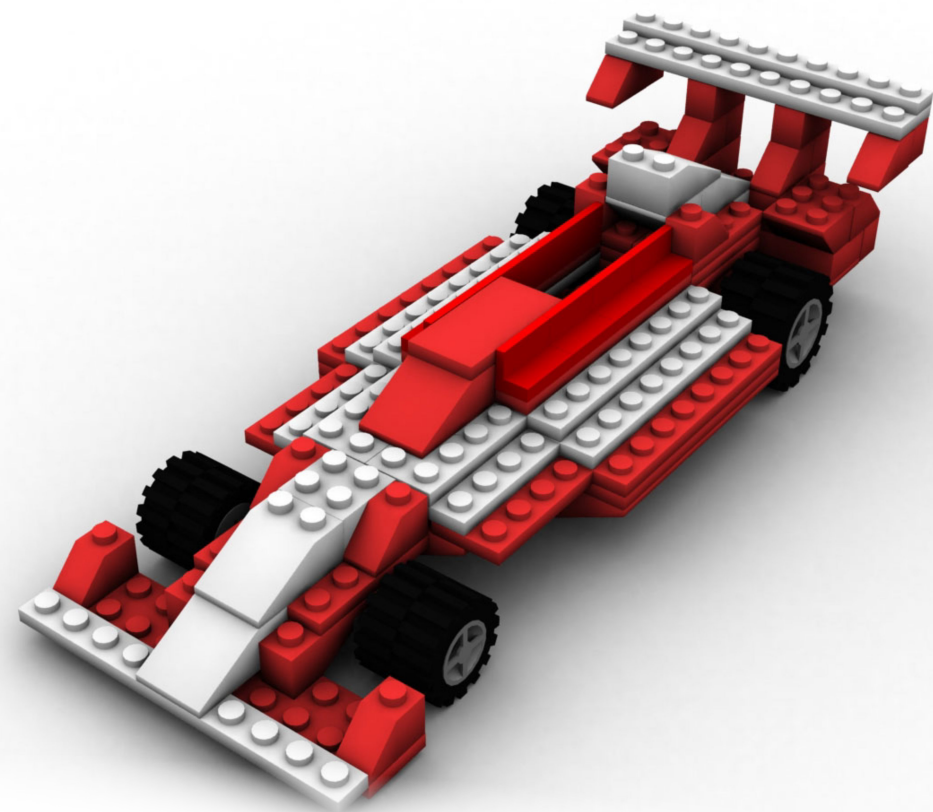
#3: Engage users the right way



VS



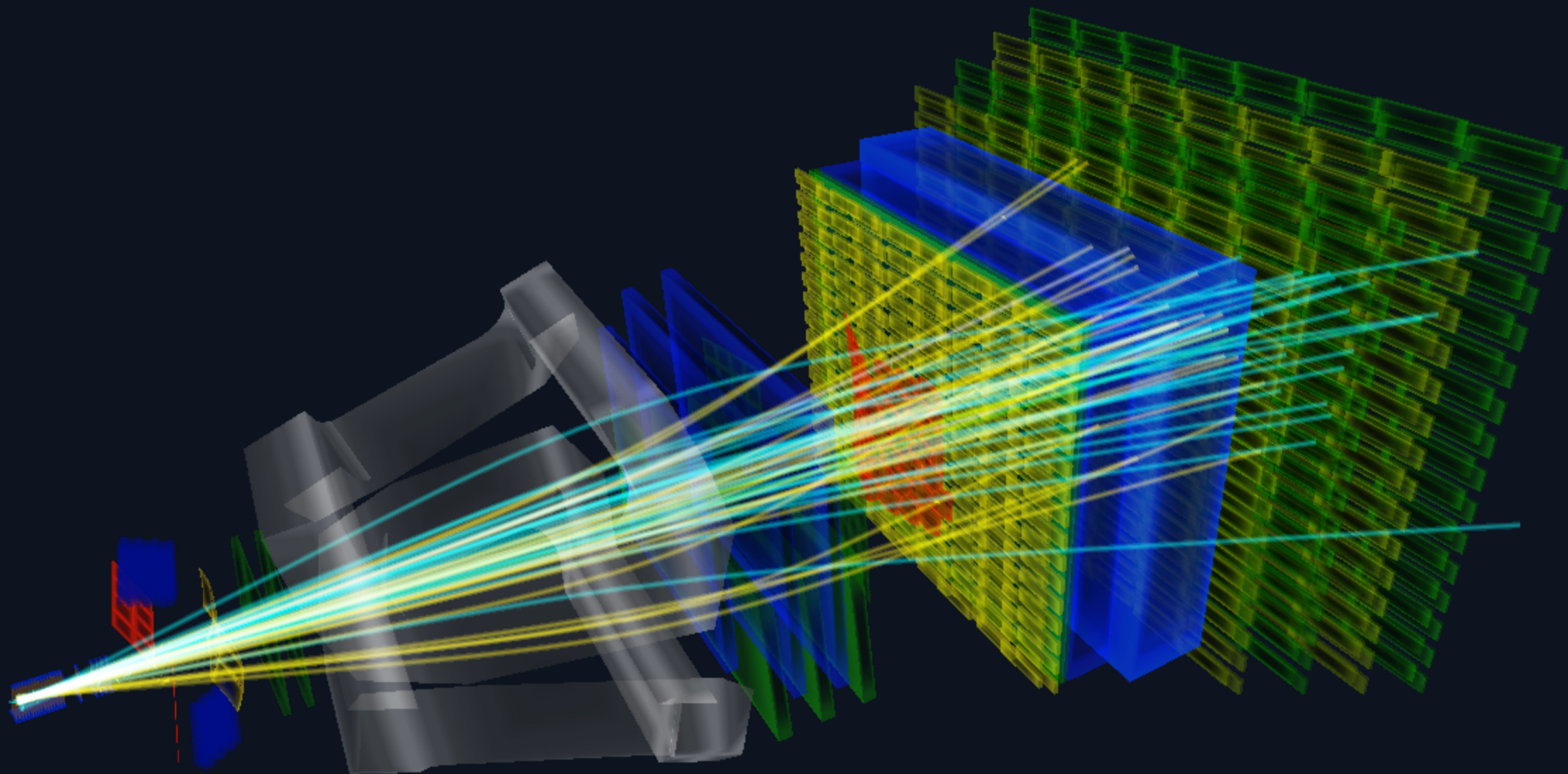
#4: Flexible. Usable in many scenarios

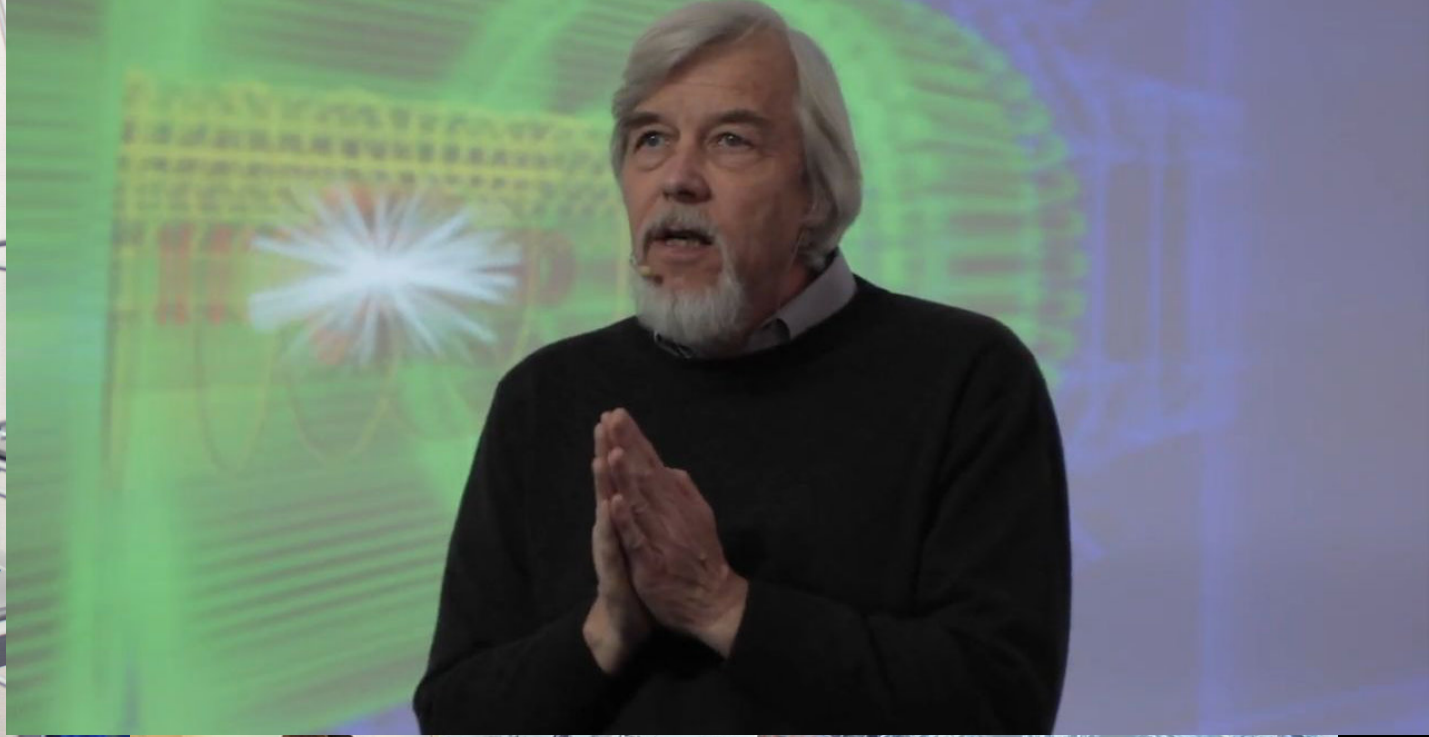


3 - TOOLS



# TEV - Total Event Visualizer





@ places

Being Used In The



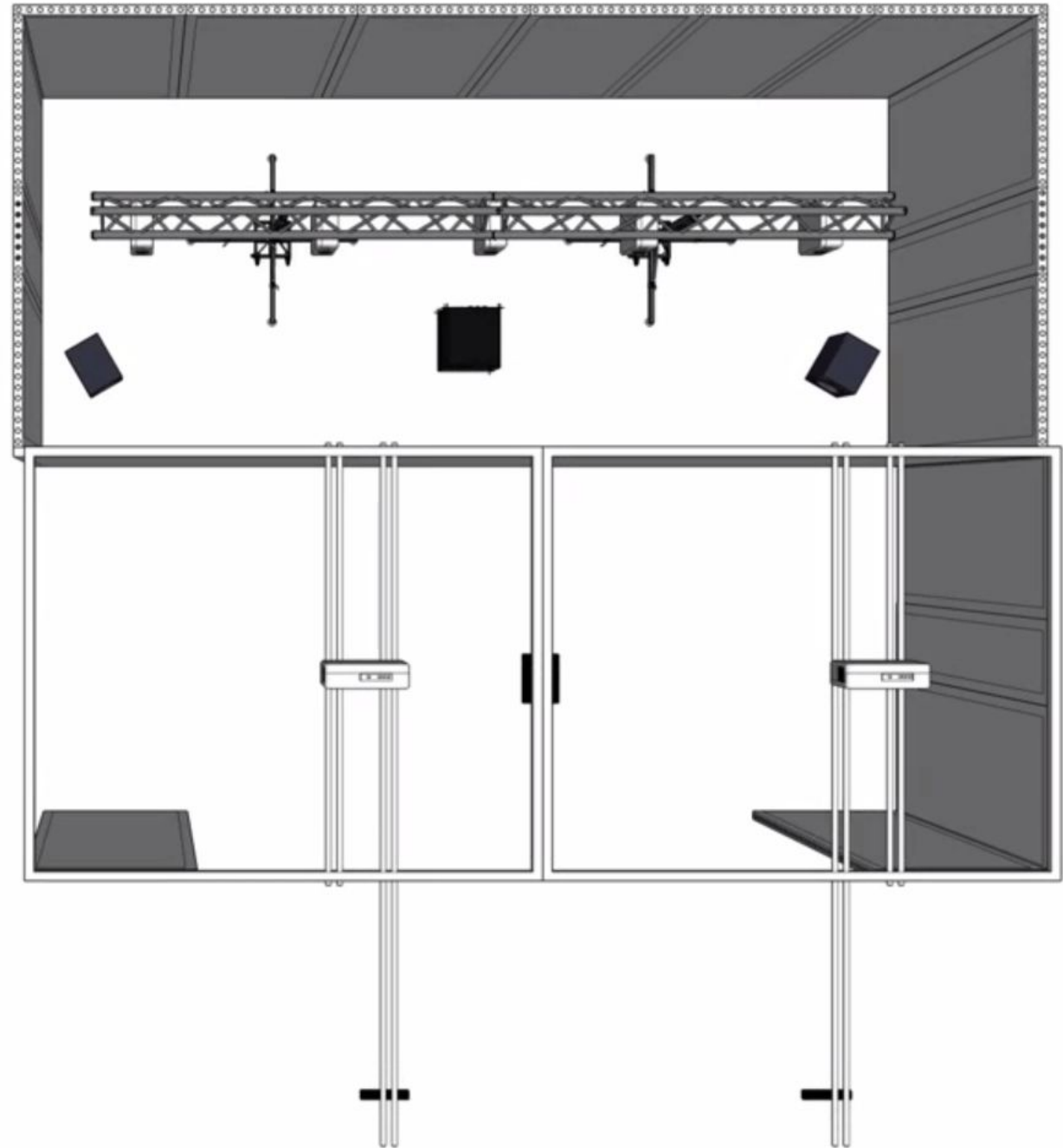
LHC Interactive Tunnel

# // DIMENSIONS

- Height - 3m
- User area - 6m x 2.5m
- Total floor area - 6m x 6m

LIT

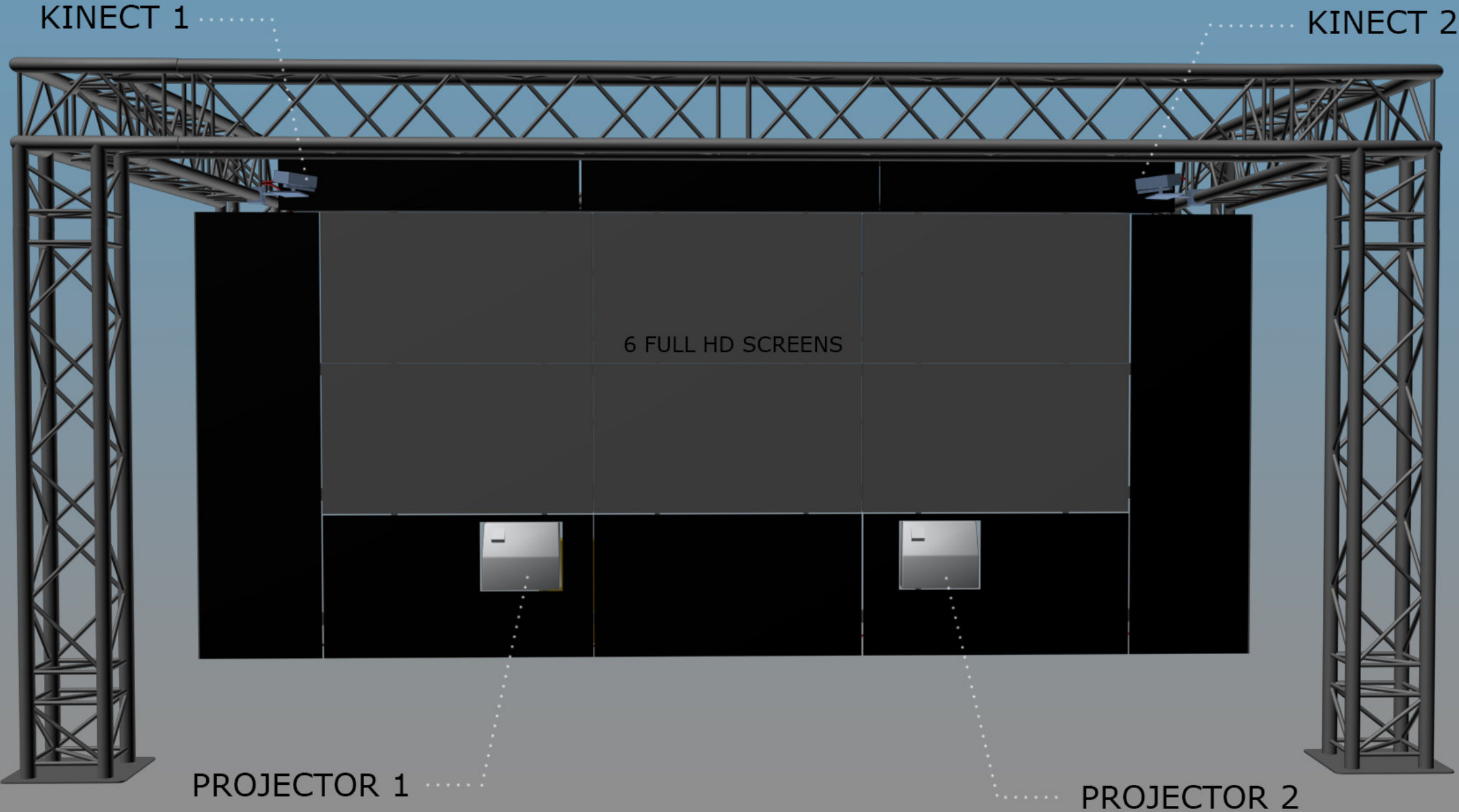
Mark I





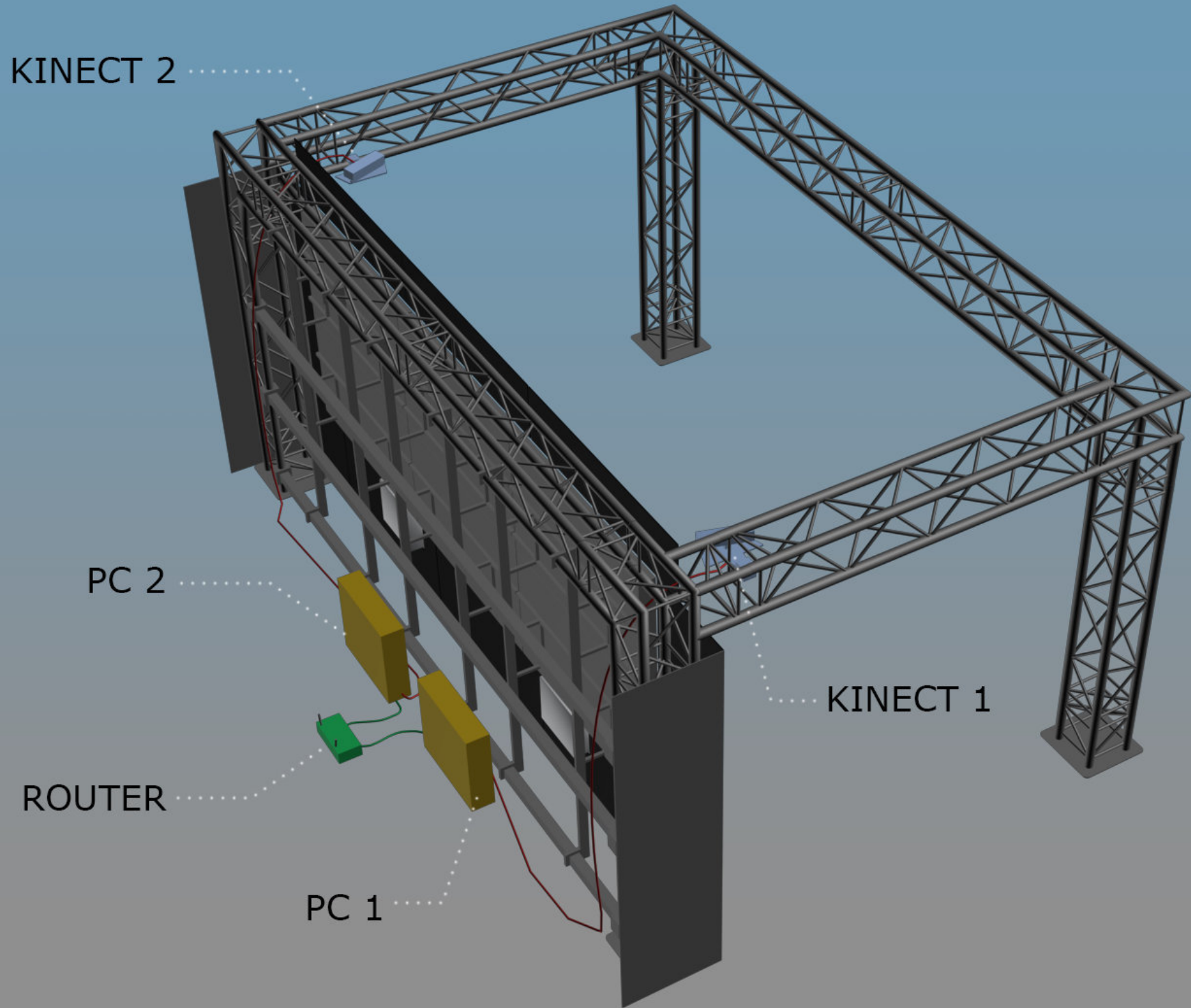
# LIT - Anatomy

Mark II



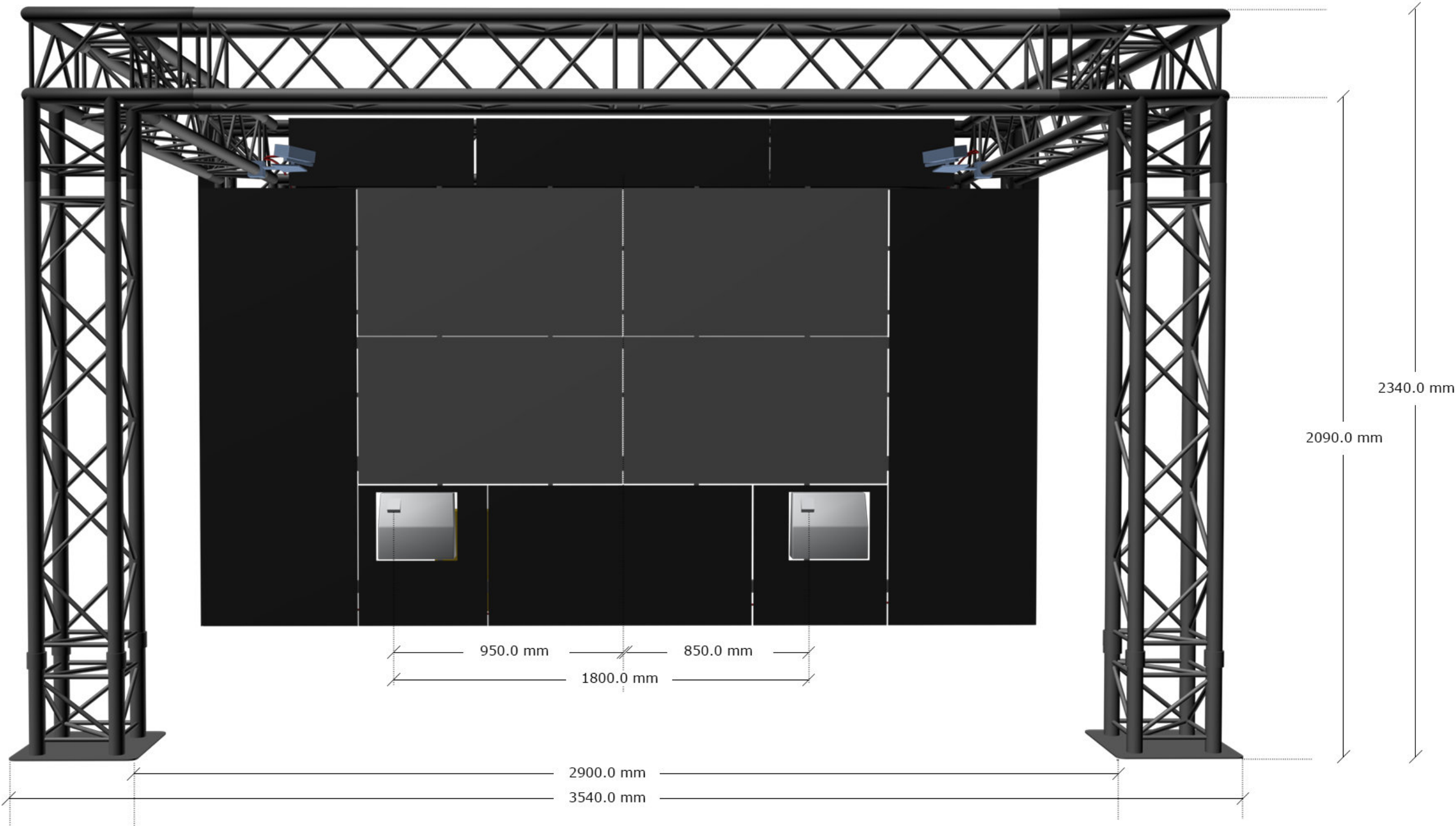
# LIT - Anatomy

Mark II



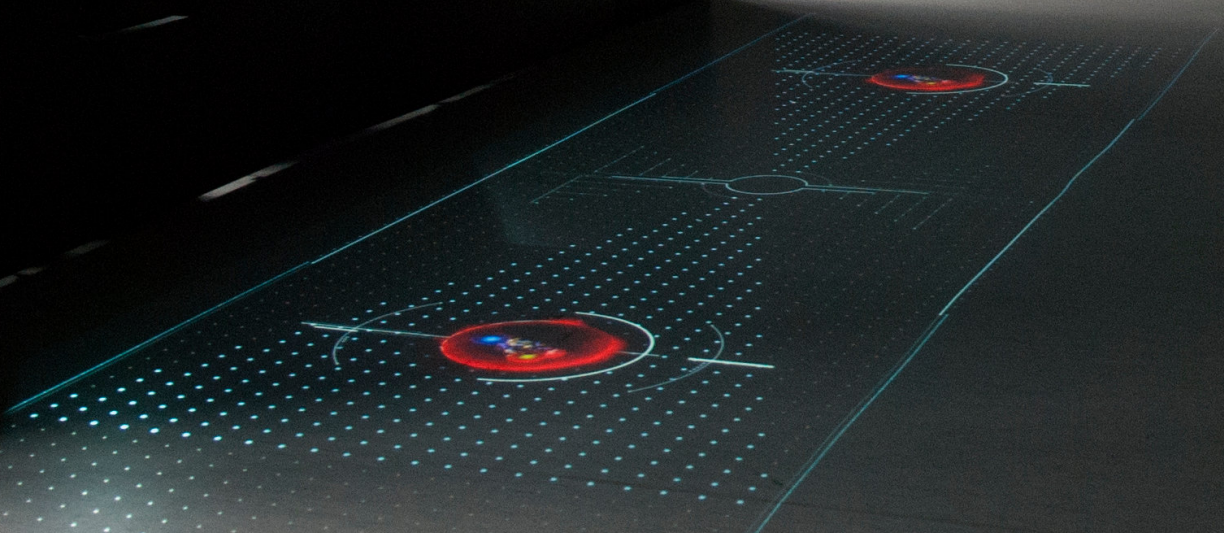
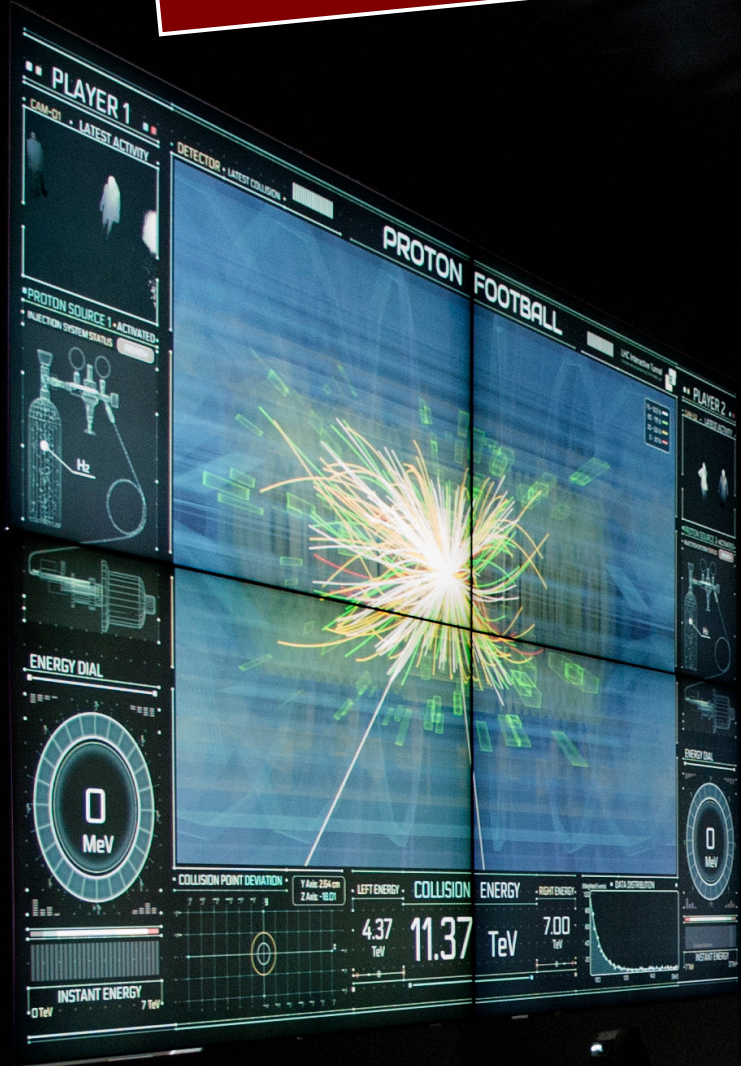
# LIT - Anatomy

Mark III



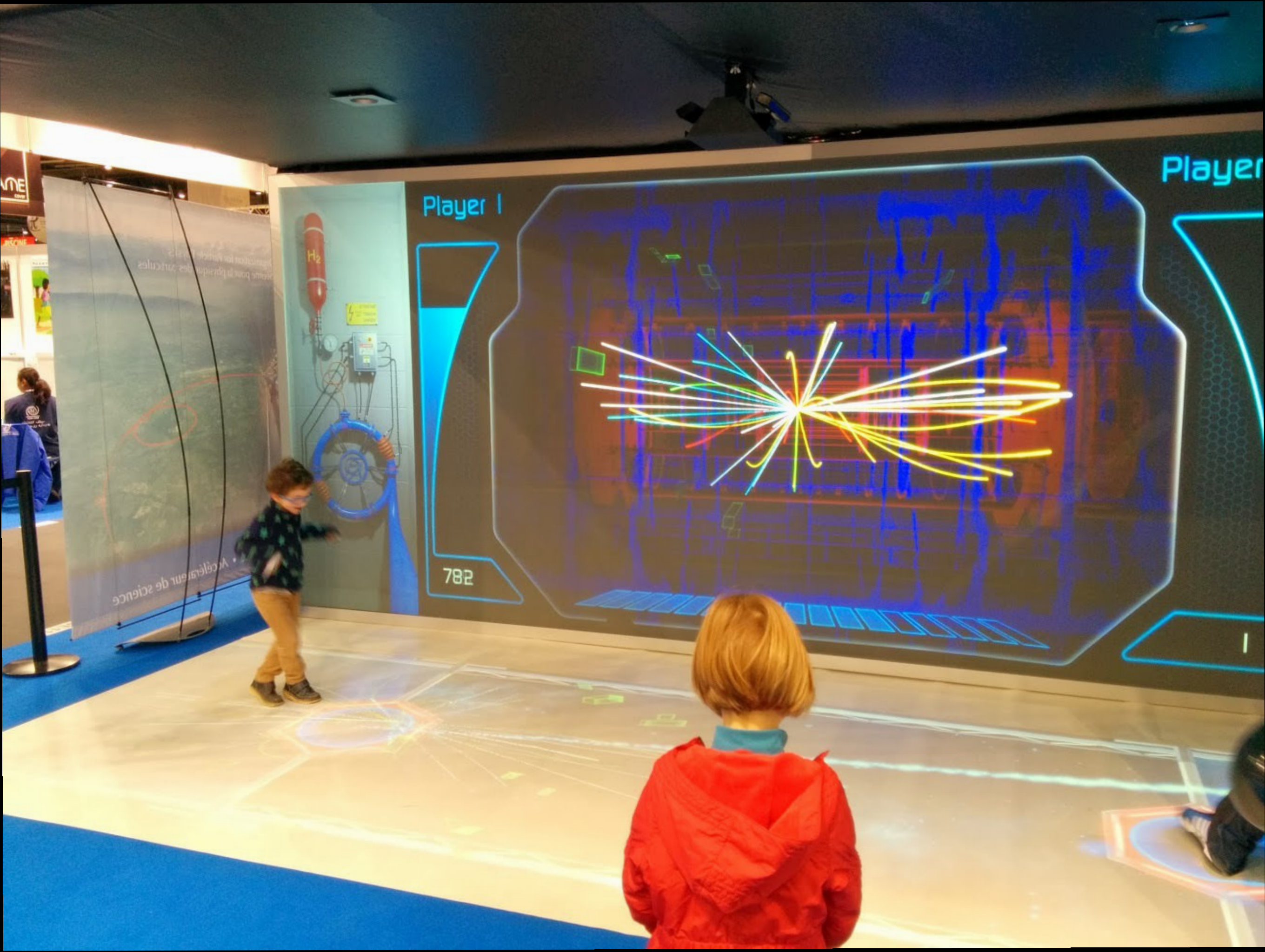
# LIT - Anatomy

Mark III



# Proton Football





Player 1

Player 2

782

Accélérateur de science

ME

RECH

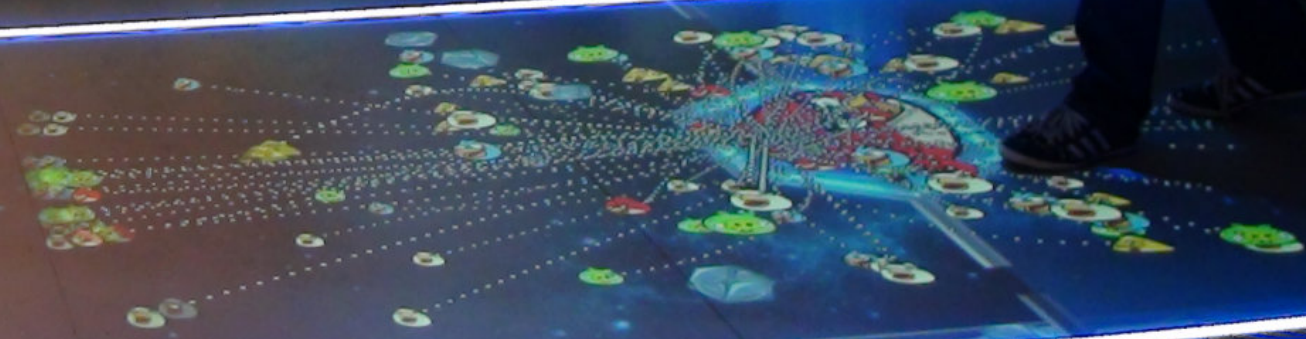
PLAYER 1

# ANGRY BIRDS

PLAYER 2

4001

5000

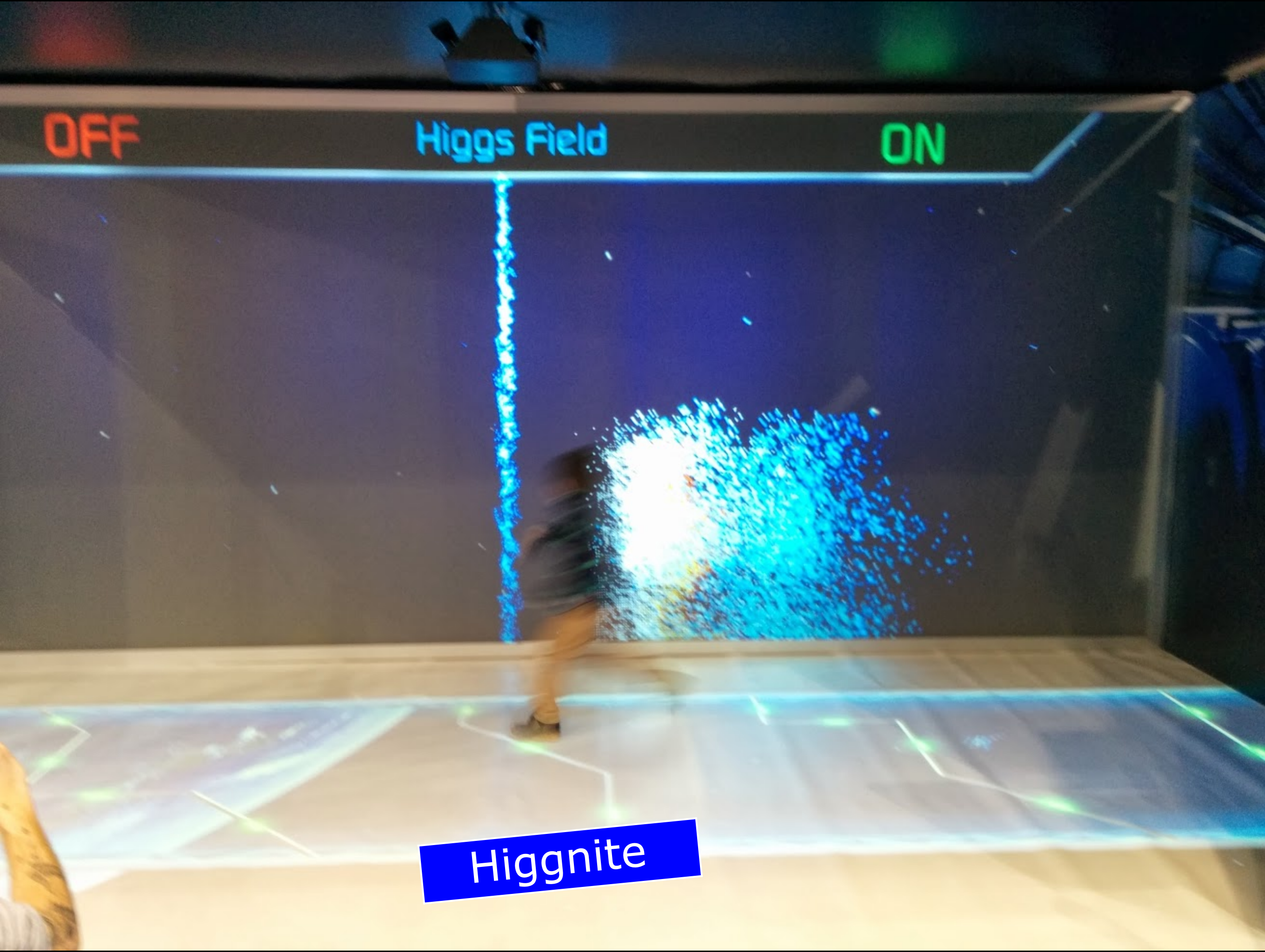


OFF

Higgs Field

ON

Higgnite





ON

Higgs Field

OFF







CERN

APPLICATIONS

SCIENCE

02765607088898888888

LE CERN EN 5 ETAPES



EUROCAVE



© Place Royale / RTV Belgium

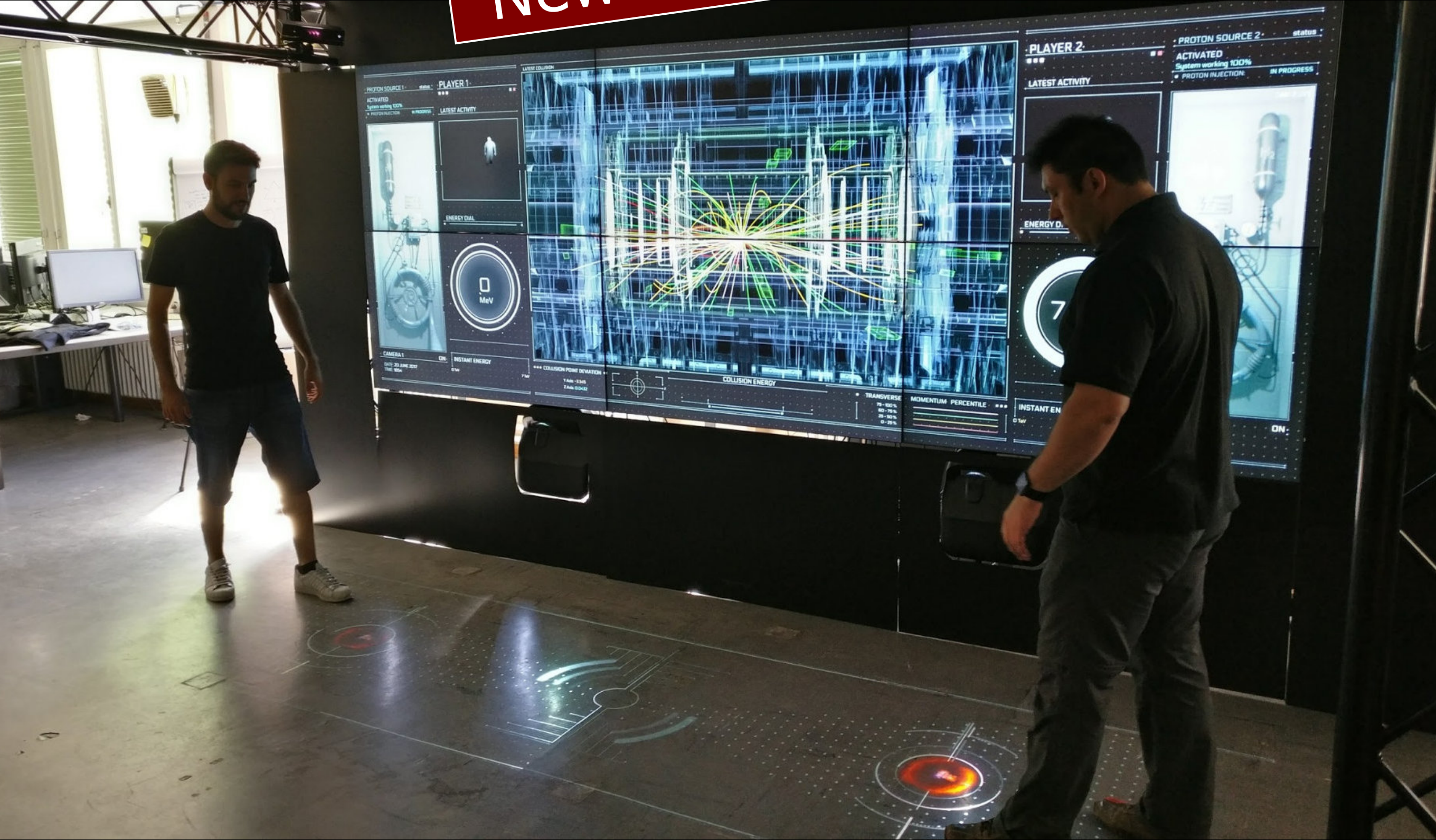
Recent Upgrade:

-Architecture

-Applications

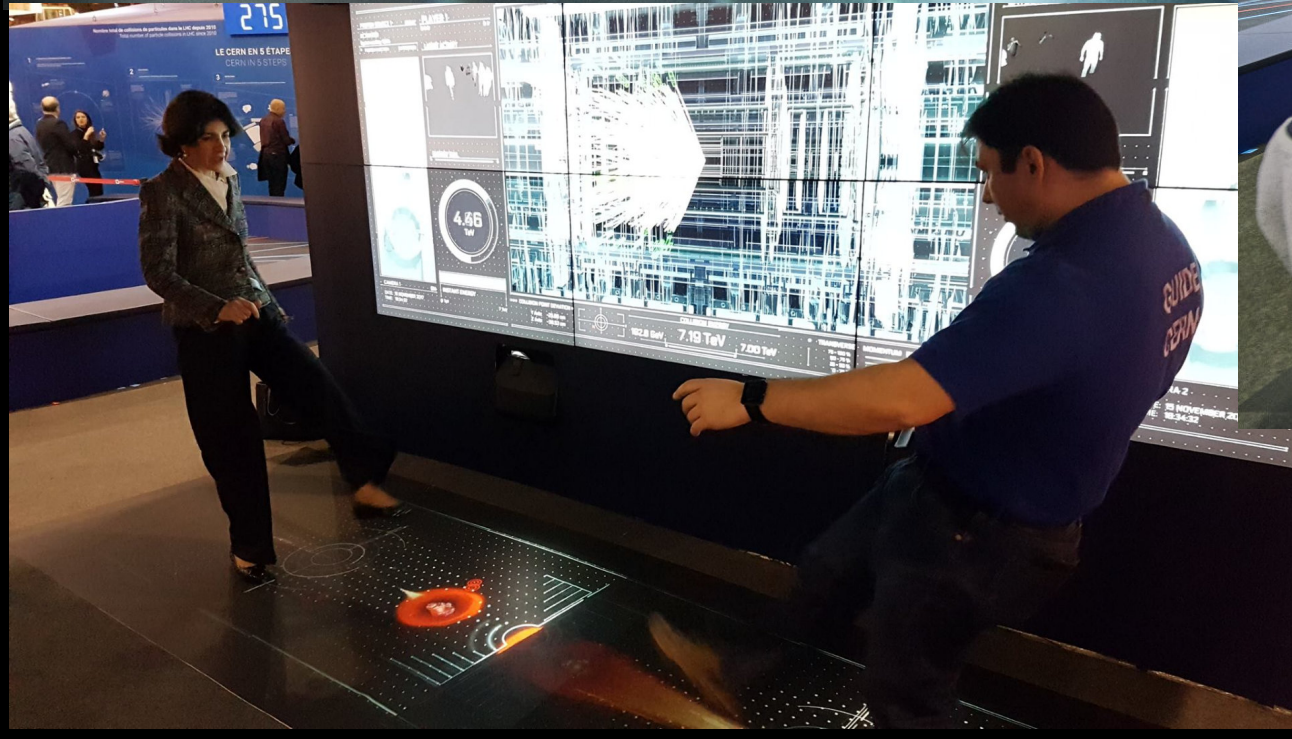
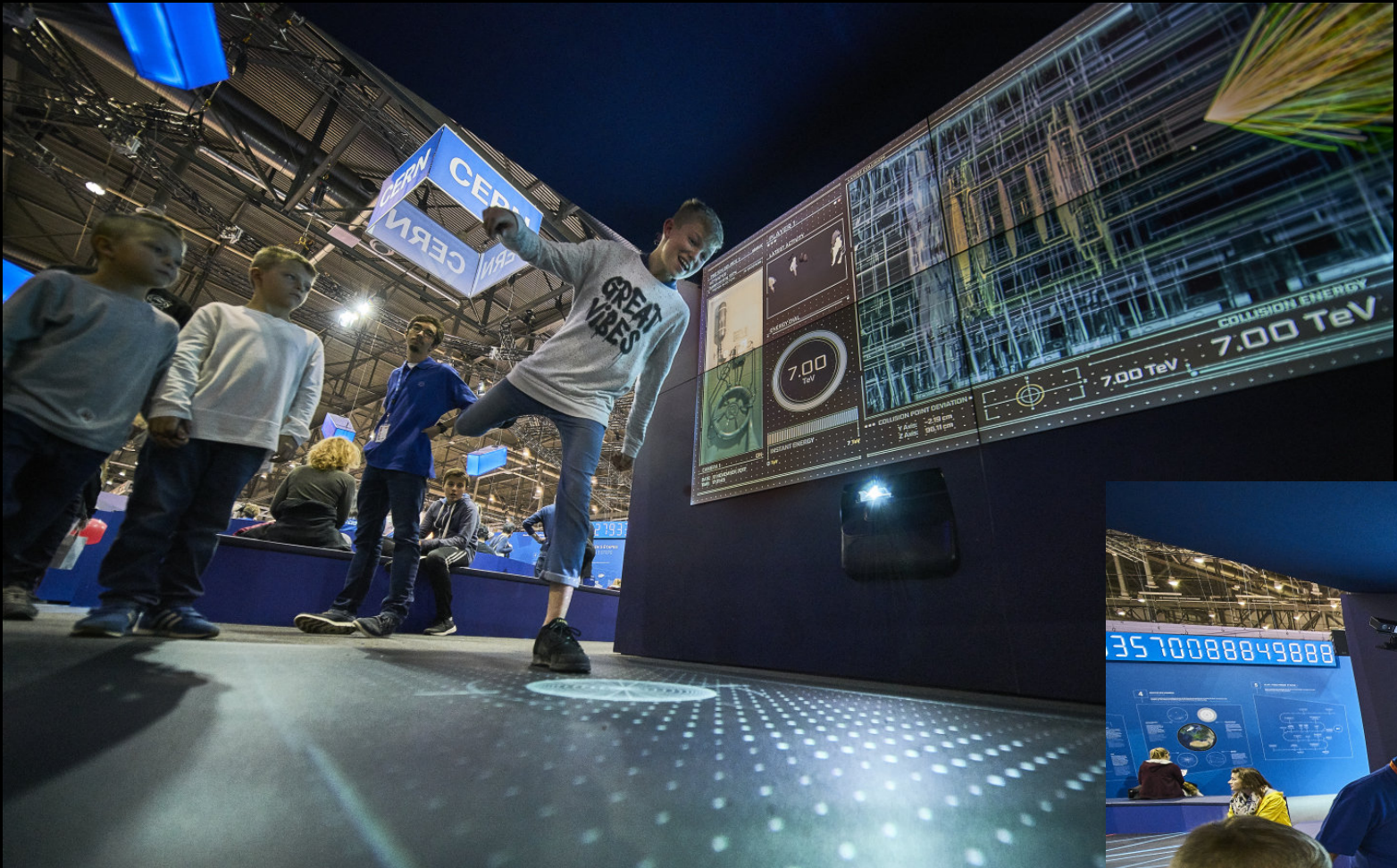


# New Design



# New Design

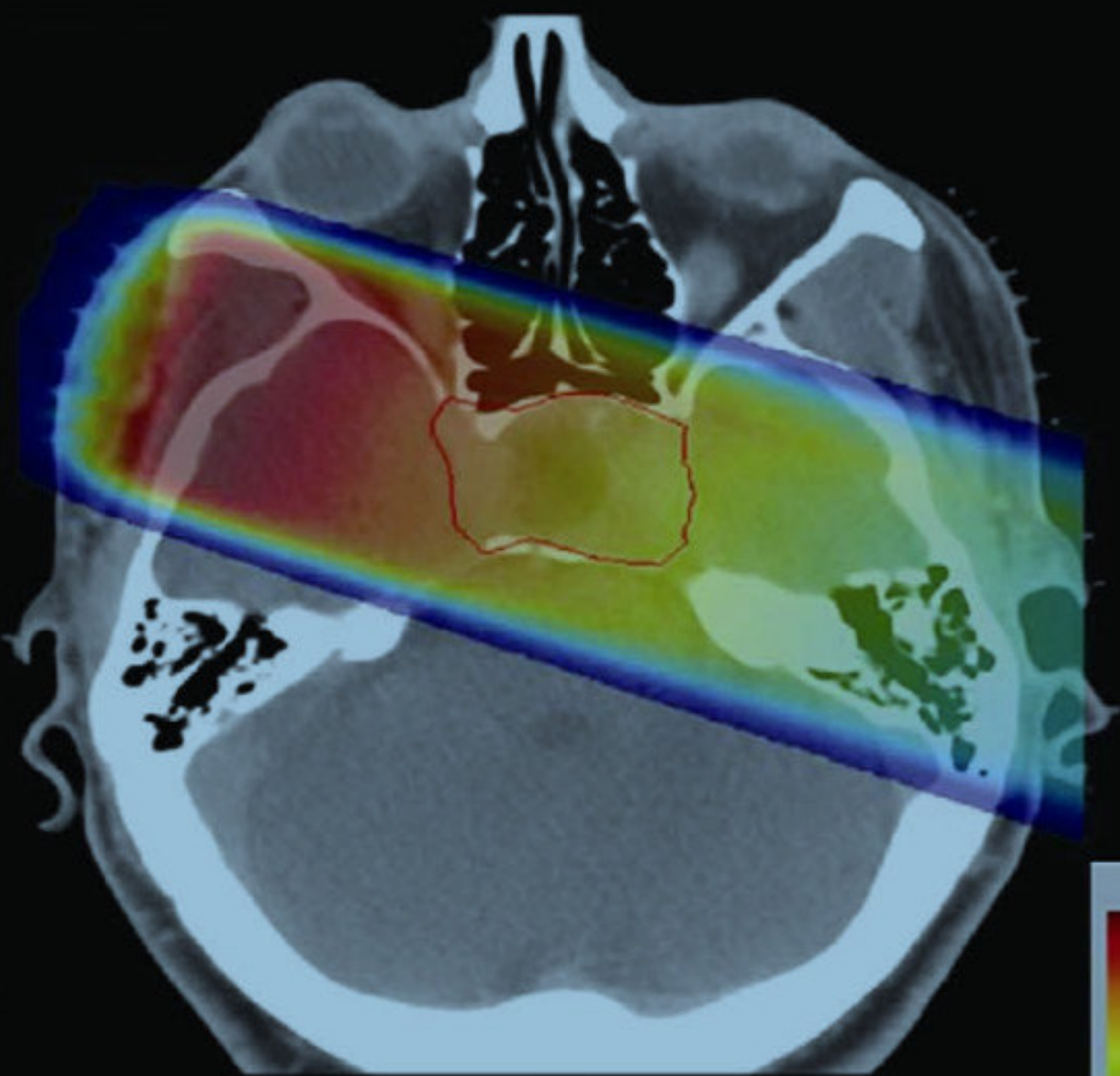




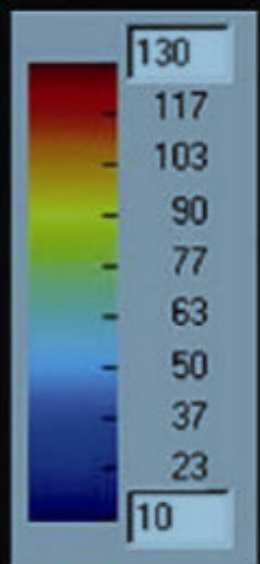
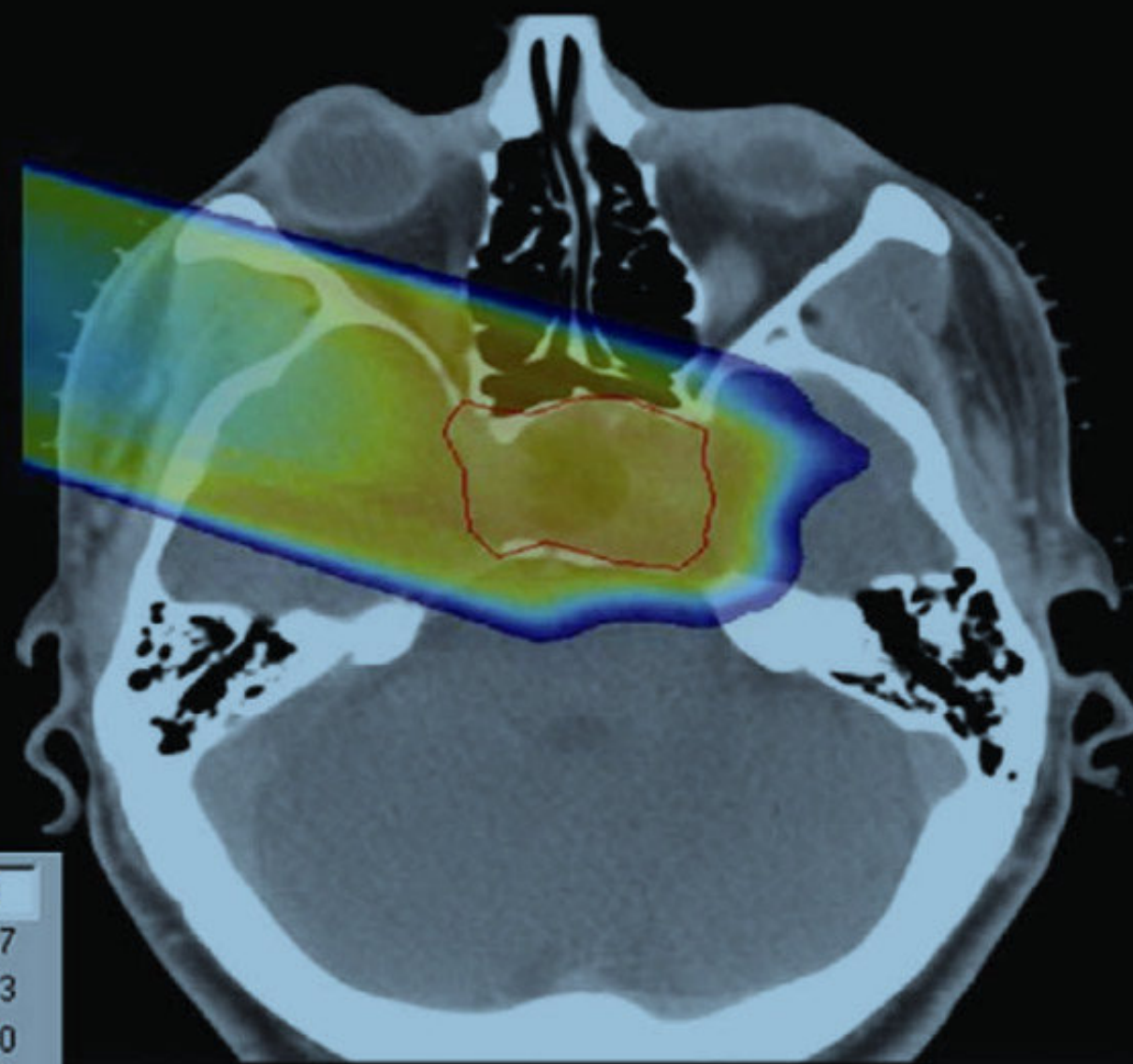


# Hadron Therapy

## Photons



## Protons



# HEAL

Hadron

Emission

Applications

Lab

The display is divided into several functional panels:

- Left Panel:** Shows a 3D anatomical model of a human head and neck. A blue beam path is visible. Text at the top reads "ADJUSTMENT" and "BEAM POINT 0.56 cm". At the bottom, it says "USER LOCATED AT POSITION 1 OFF".
- Middle Panel:** Displays "GANTRY ALIGNMENT" with a "GANTRY ANGLE -55°". It features a 3D brain model with a yellow beam line and various data points: "Angle: 5.23", "Pitch: 4.26", "Roll: 12.7, 13.5", "Displacement (-20.9, -12.7, 6.7)", "EnergyLeft: 100", and "EnergyRight: -1.0". At the bottom, it says "USER LOCATED AT POSITION 2 ON".
- Right Panel:** Titled "HEAL PROTON THERAPY LHC Interactive Tunnel", it shows "GANTRY ACTIVITY" and "STATUS WORKING TUN TR 1". It includes a 3D gantry model, a "GANTRY ANGLE -55°" indicator, and a "PROTON BEAM SOURCE" section with "ENERGY ENGINE 1" and "DEPTH CONTROL" options. At the bottom, it says "USER LOCATED AT POSITION 3 OFF".



# HEAL

Hadron

Emission

Applications

Lab



# The Road Ahead



# New Projects/Technologies

Omnitouch

POV

JEDI

Dynamap

KAPT

EGL

CHARM

Cookit

GOD

**COLLABORATION**





*That's all Folks!*

For more info, visit  
[medialab.web.cern.ch](http://medialab.web.cern.ch)