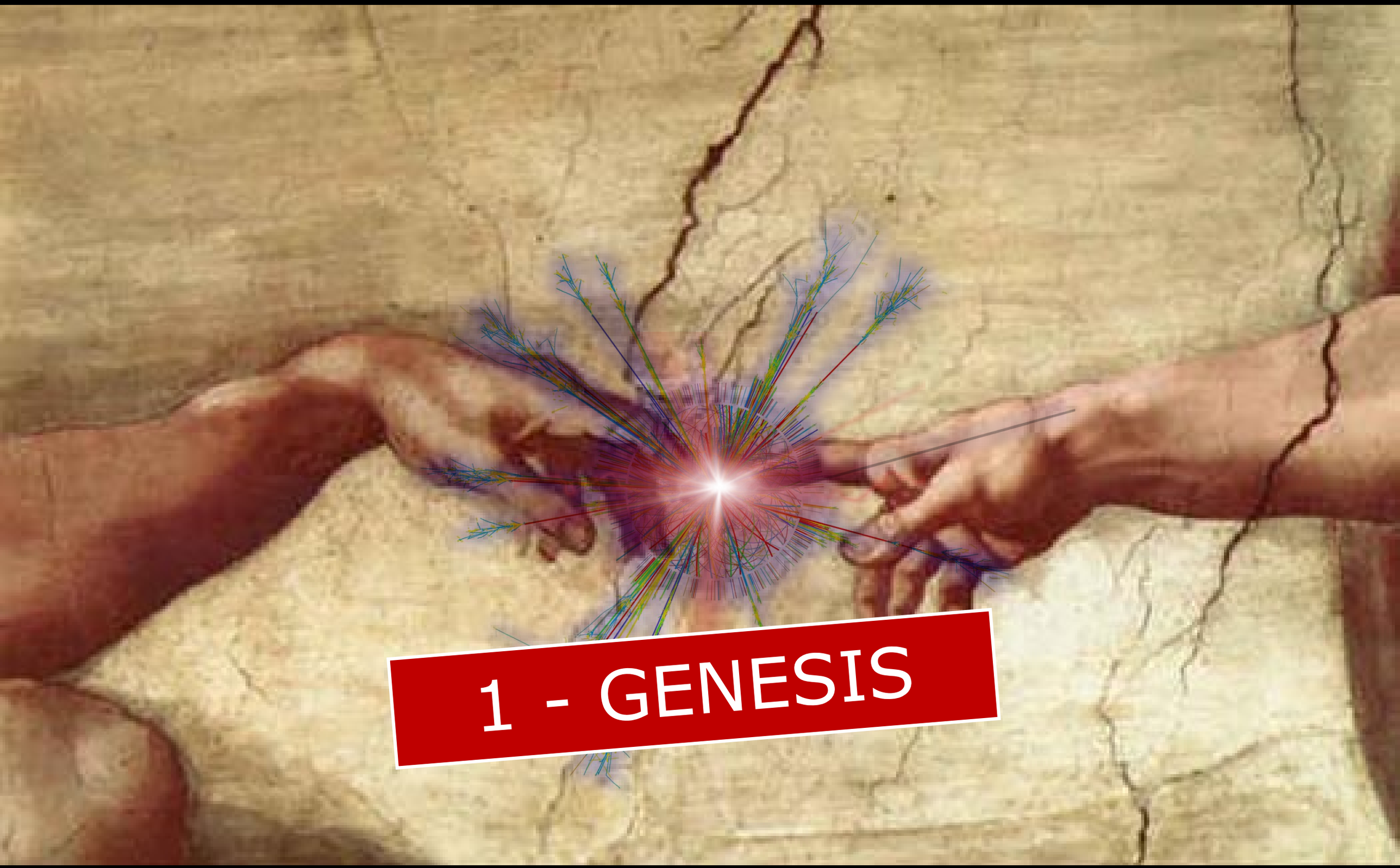
New Approaches in Science Communication

at the CERN Media Lab

Joao Pequenao - CERN Media Lab

March 12 2015


1 - GENESIS

Outreach at CERN

CERN Education

CERN Communications

CERN Experiments

Outreach at CERN

CERN Education

Exhibits

Special Events

Teachers and Schools

Educational Resources

Visit Service

CERN Communications

CERN Press

Press Relations

Social Media

Video & Photo Services

Web Presence

VIP Events

CERN Experiments

All of the Above *

* With focus on the experiments

Outreach Challenges

2009 onwards

LHC Operation Milestones

Discoveries

Outreach Challenges

2009 onwards

Prizes and Awards

Outreach Challenges

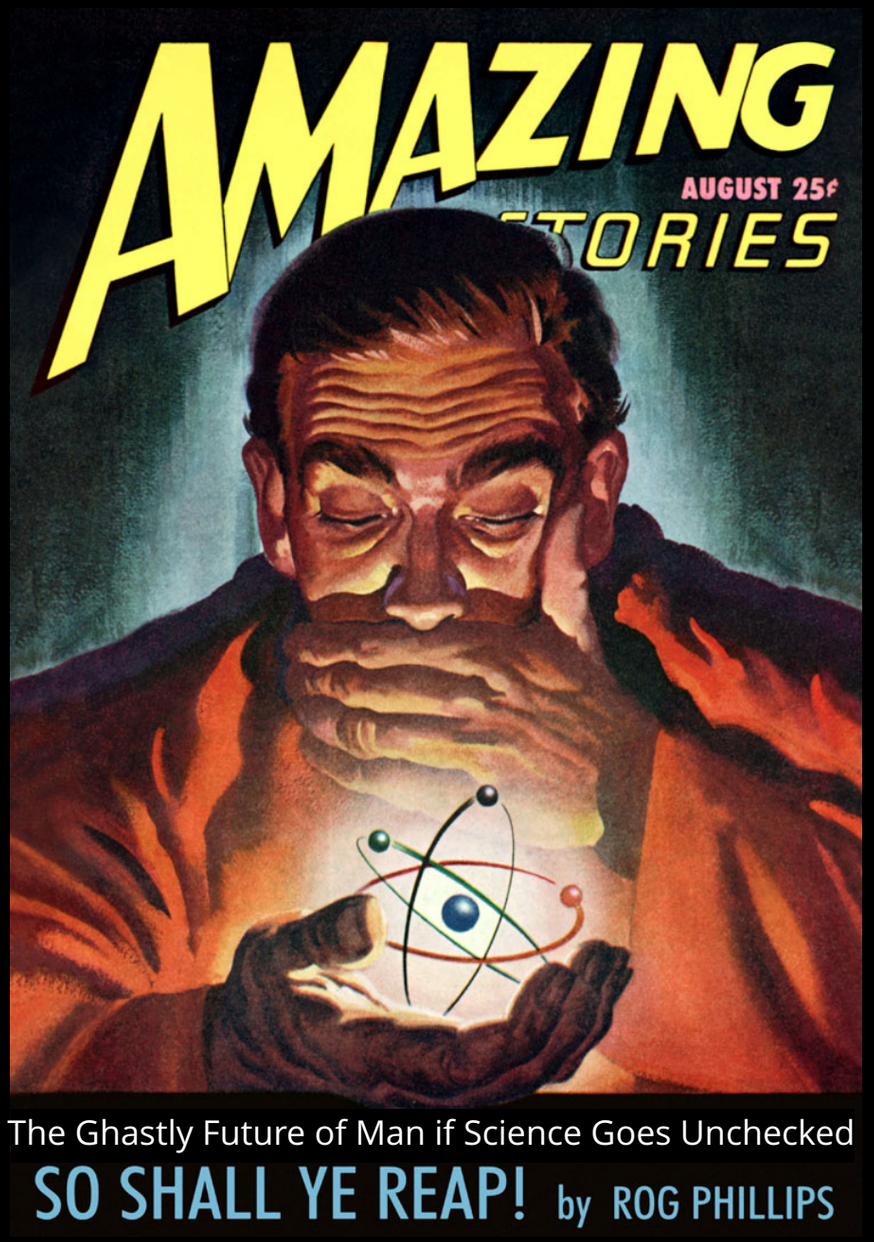
2009 onwards

Pop Culture References

Outreach Challenges

2009 onwards

Doom and Gloom



Synergy

Synchronize

Share

Specialize

The Education Upgrade

Exhibit Content

In-House Expertise

Educational Resources

State-Of-The-Art Tools

Visualizations

Animations

Research

Development

Deployment

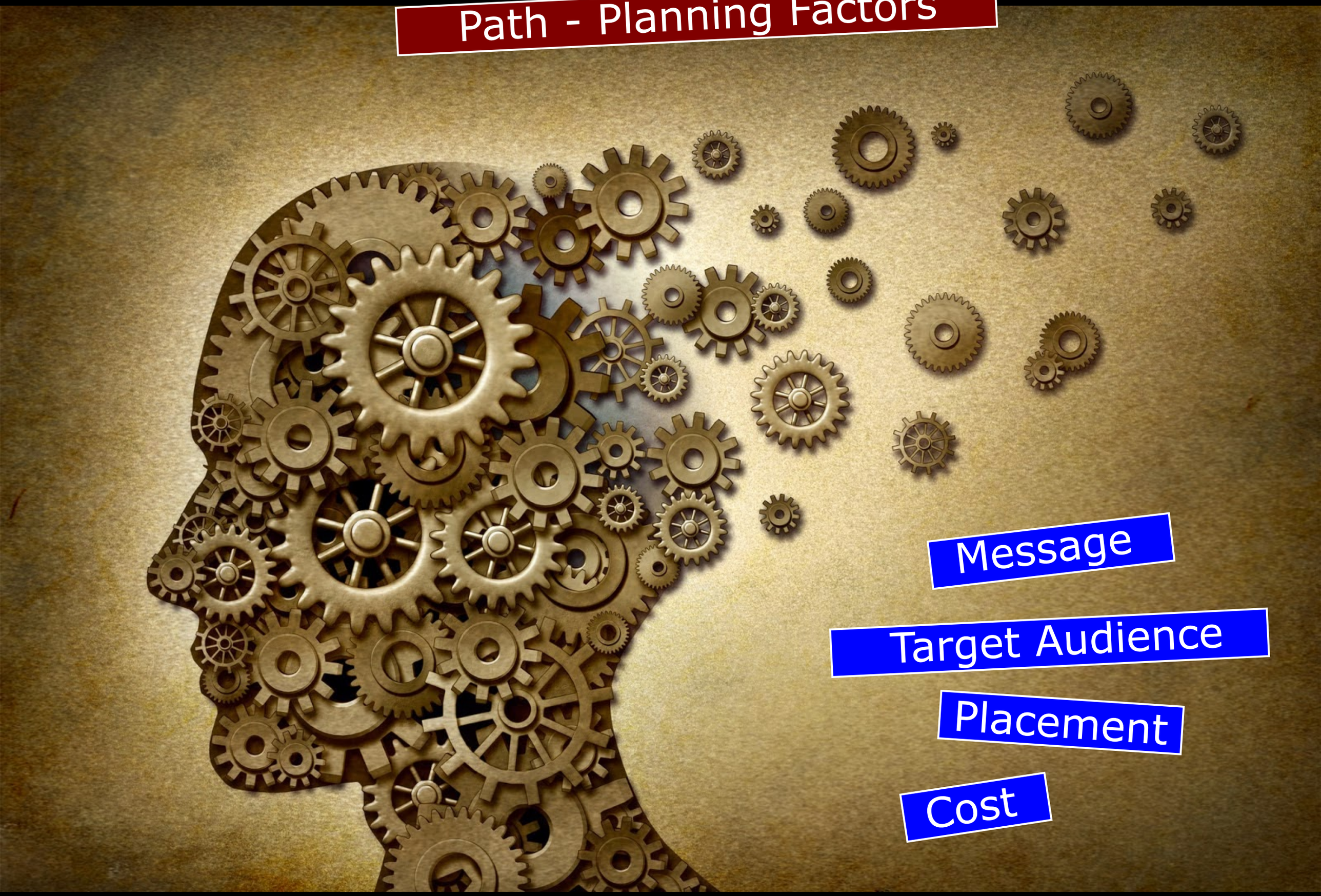
Support

CERN Media Lab - Original

Current Hard Core

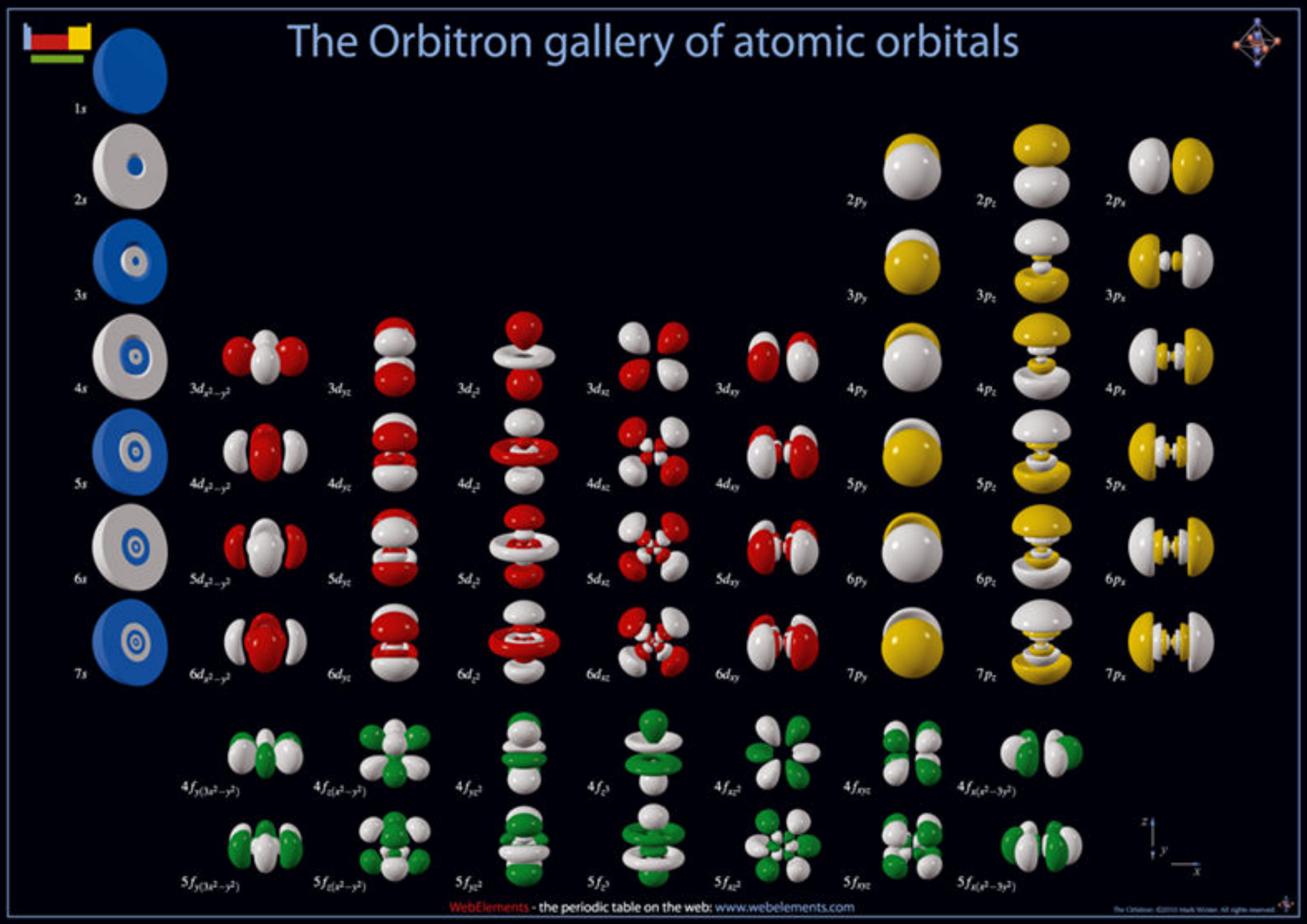
2 - PATH

Path - Planning Factors



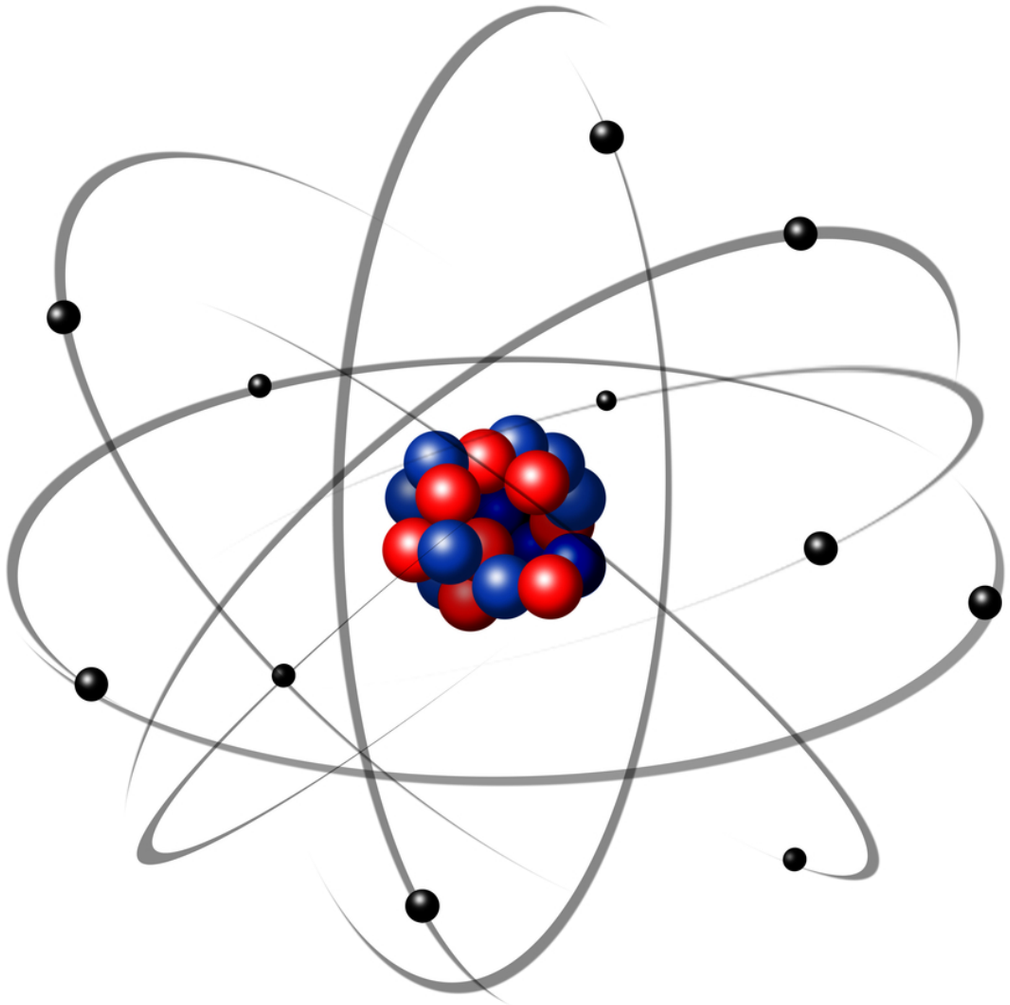
- Message
- Target Audience
- Placement
- Cost

Path - Information



A Lot!

Path - Information



Selected

Path - Engagement

Deep, Long Term

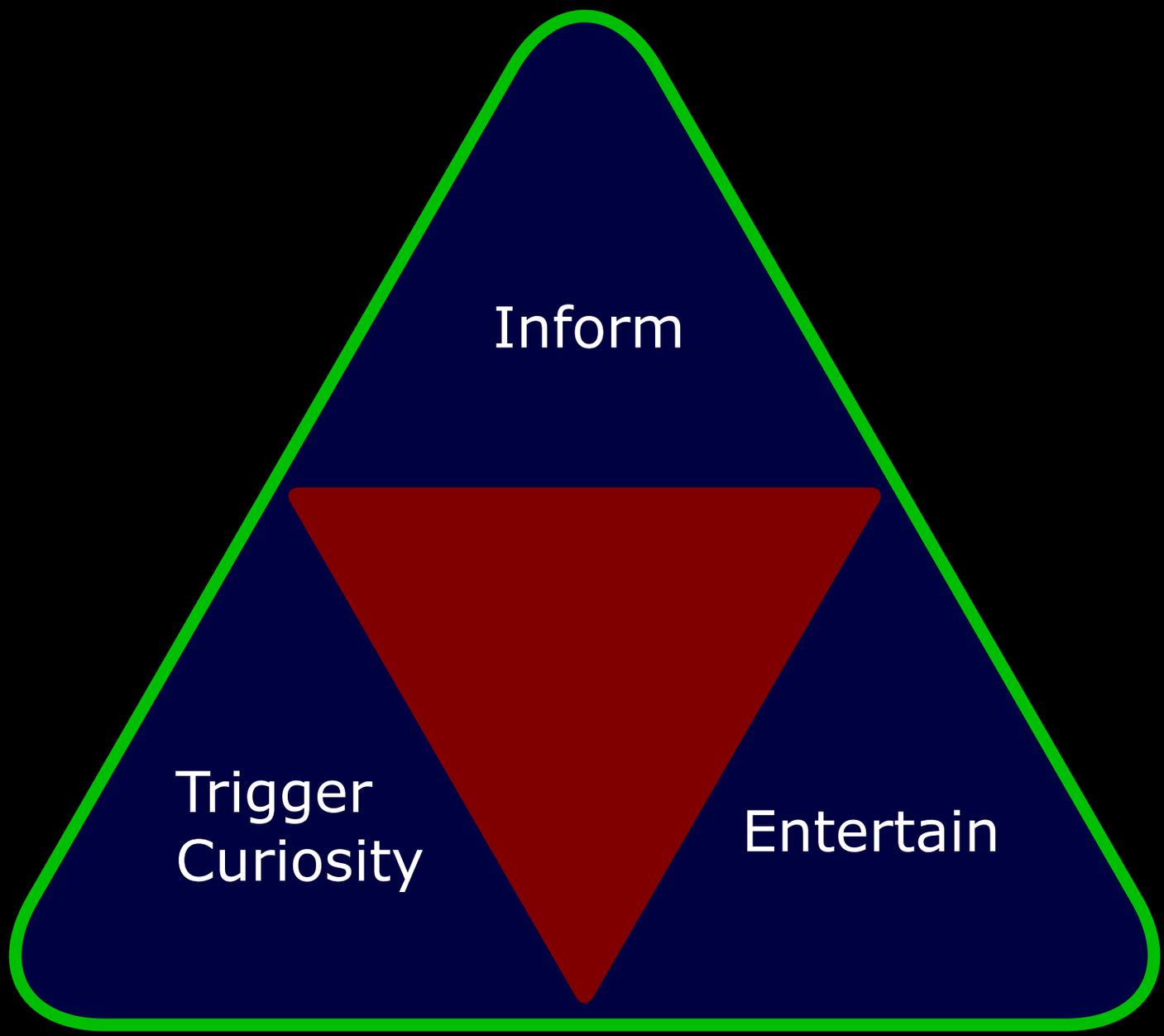
Path - Engagement

Fun and Quick

Path - Relatability

Educational Selfie

Path - Objectives

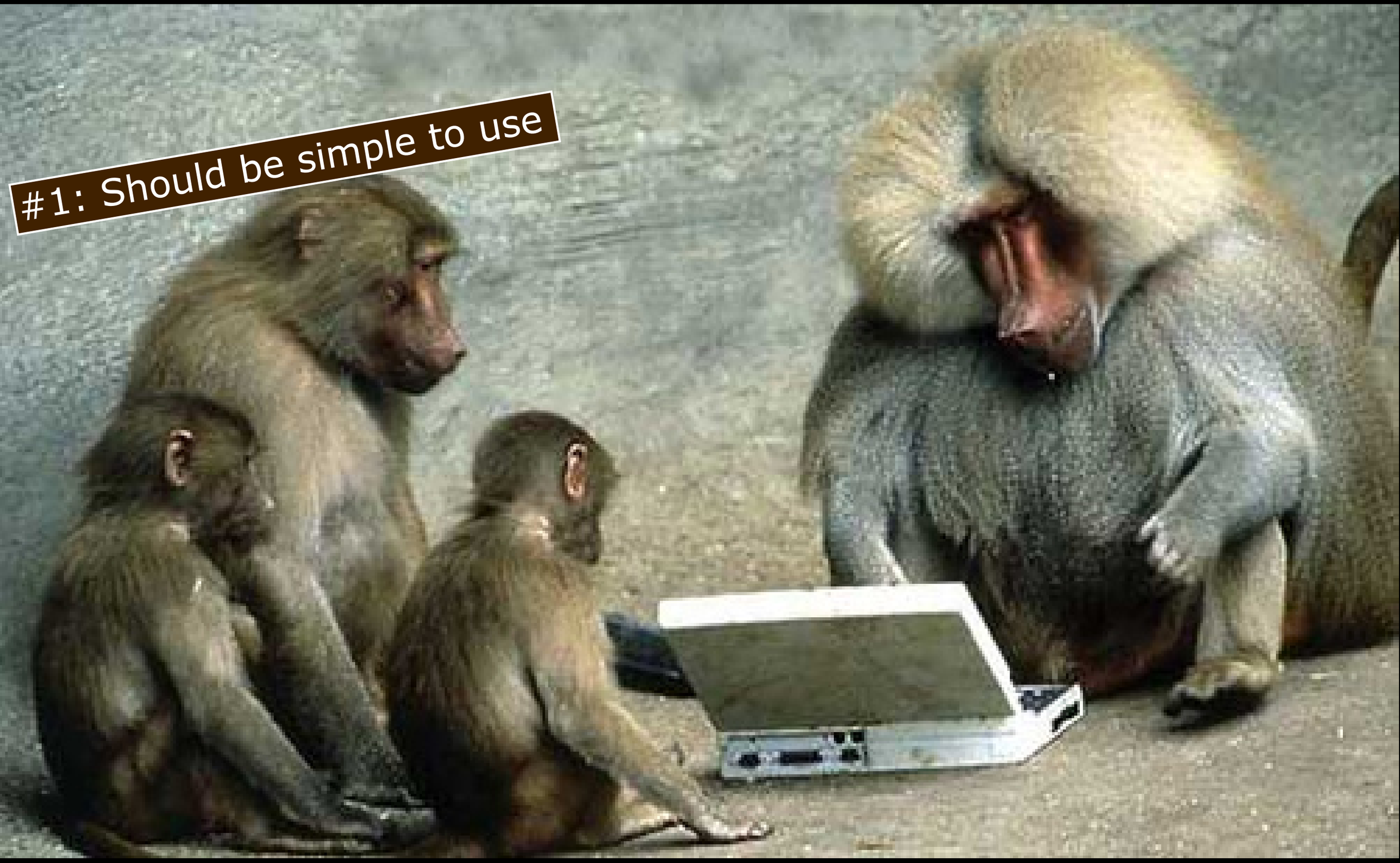


3 - TOOLS

Tools:

Principles

#1: Should be simple to use



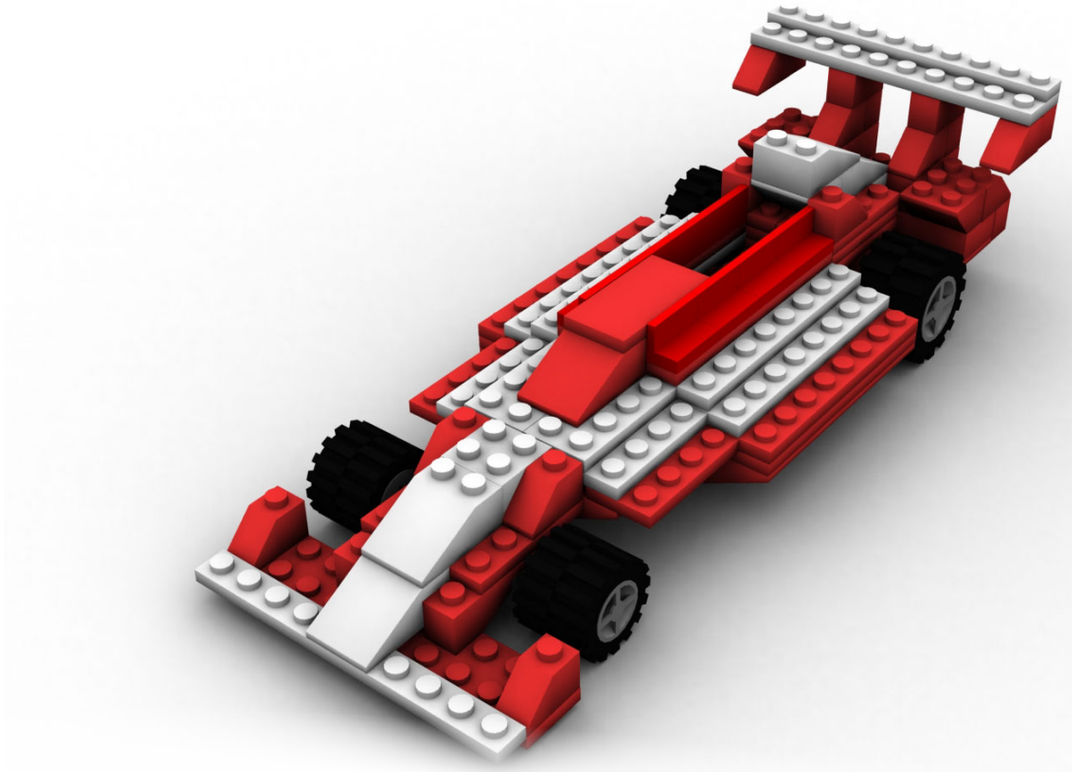
* Actual Beta Testers

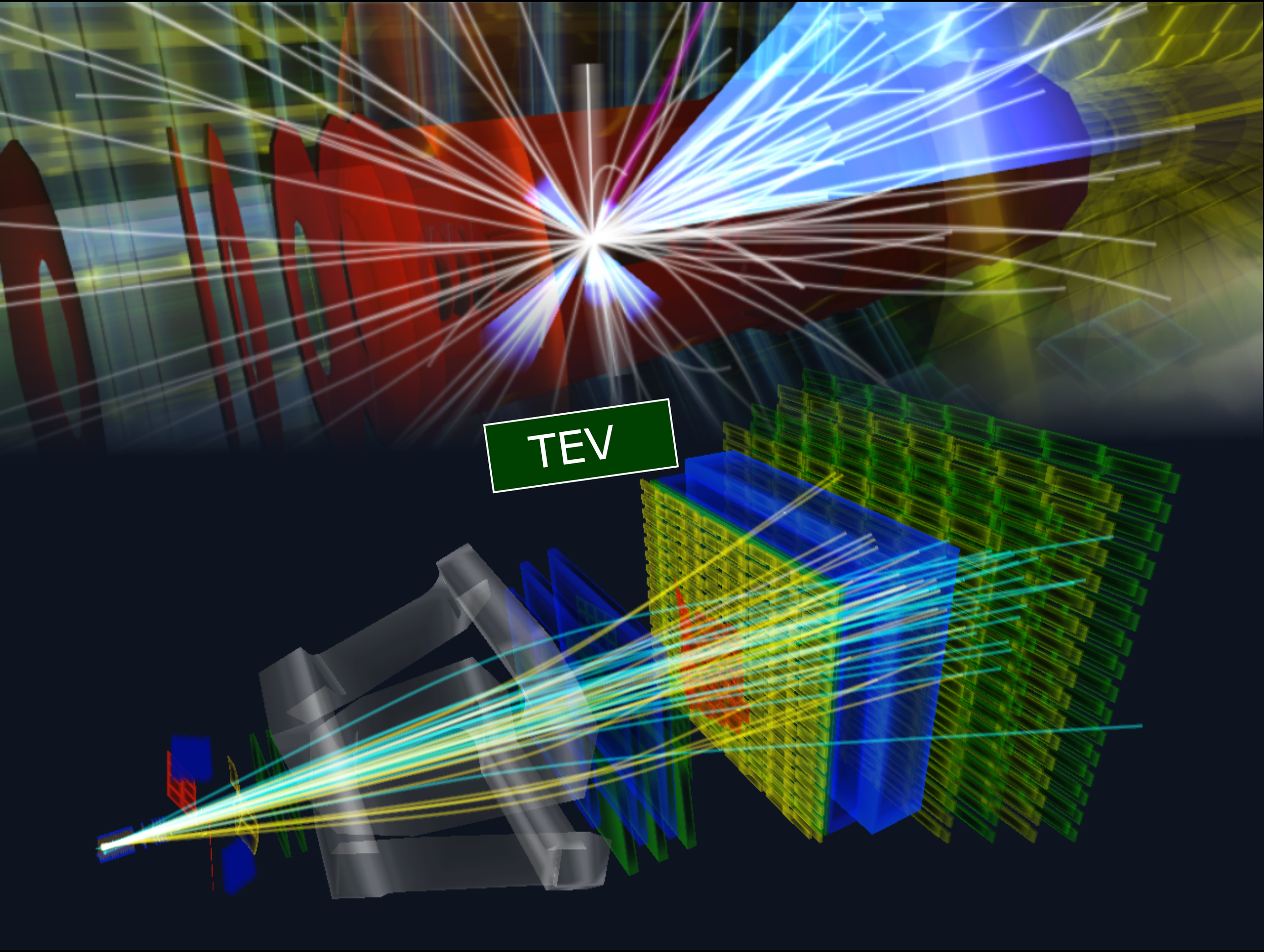
#2: Should be Visually Appealing

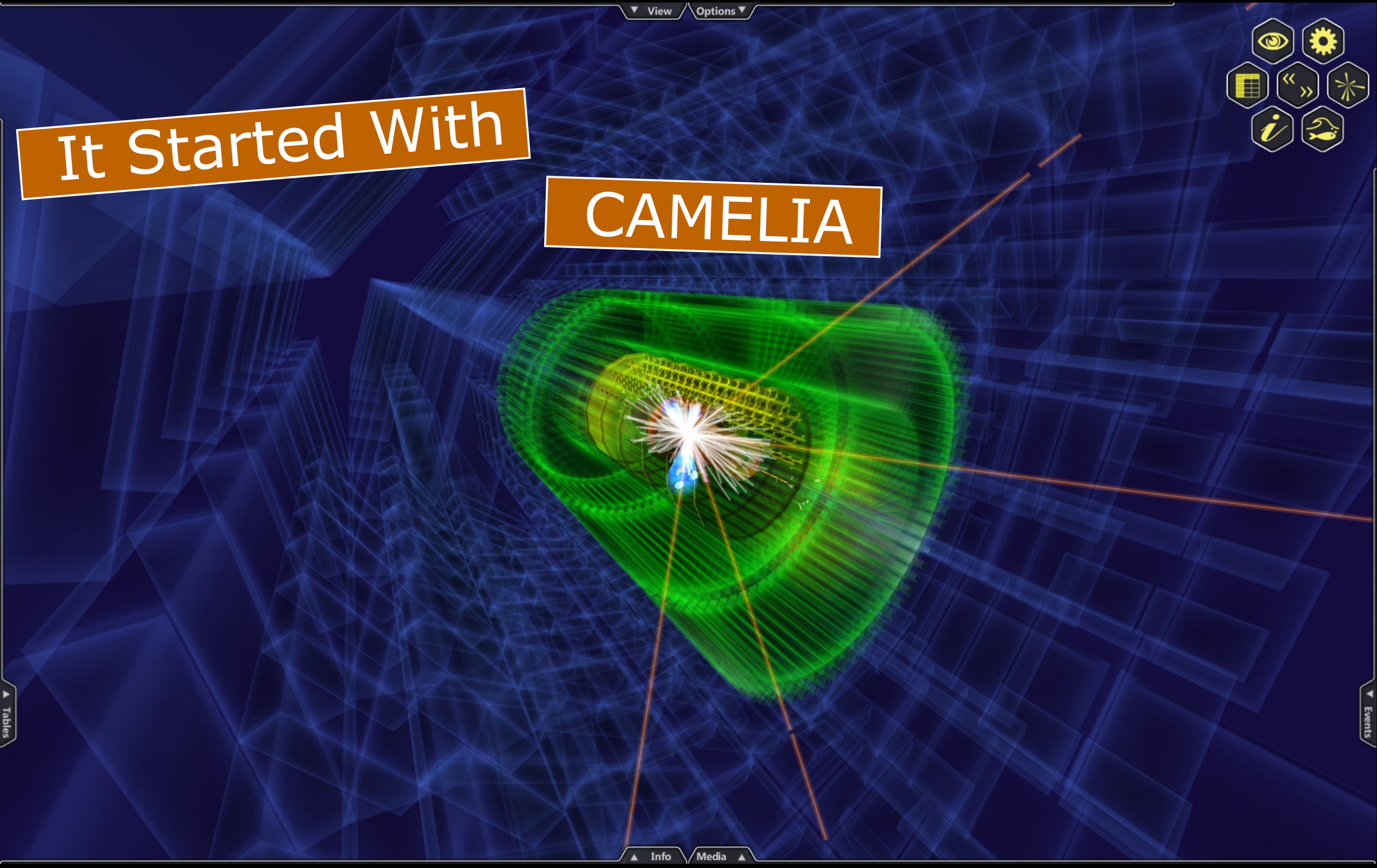
#3: Engage users the right way

VS

#4: Flexible. Usable in many scenarios

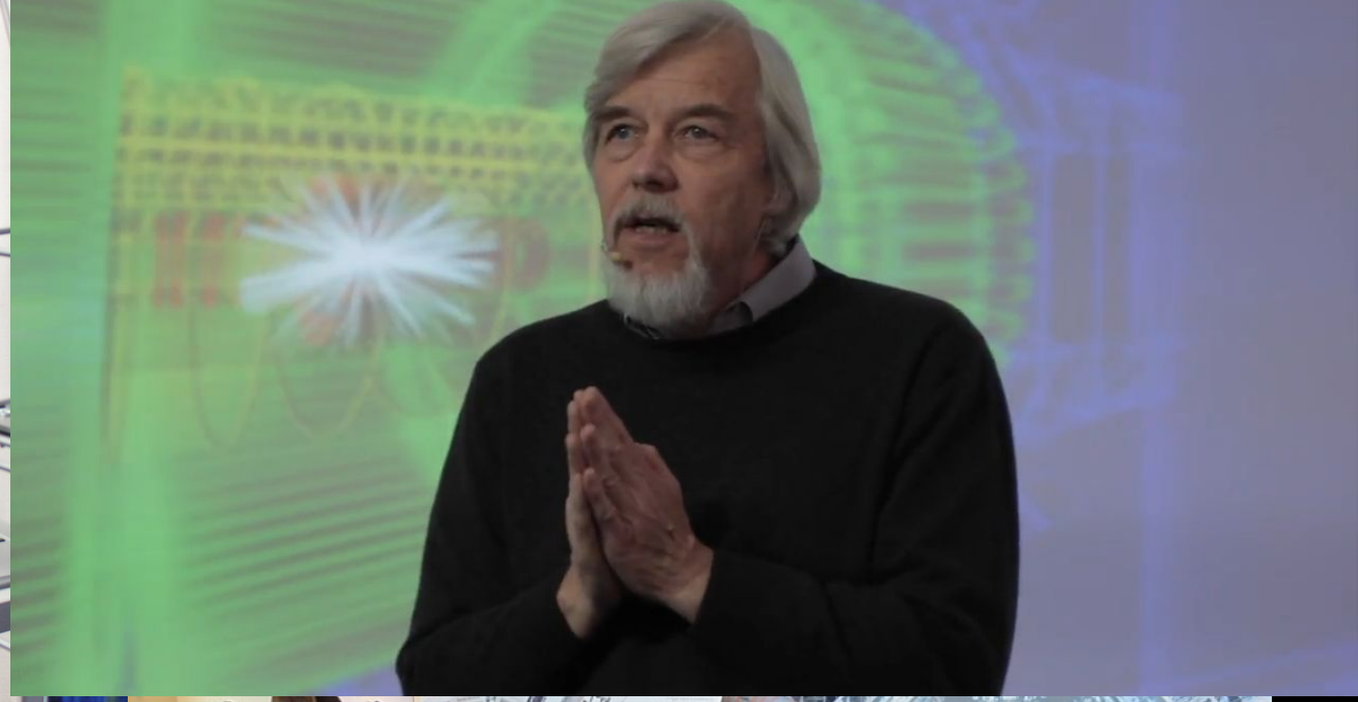



TEV



AMELIA

Cross-platform Atlas Multimedia Educational Lab
for Interactive Analysis



CAMELIA @ places

The TEV Team

Joao Antunes Pequenao
Jenny Rompa
Ana Trisovic (LHCb)
Marta Panuszewska (TOTEM)
Jeremi Niedziela (ALICE)
Tom McCauley (CMS)

Other

CMS

ALICE

LHCb

ATLAS

Data Translator

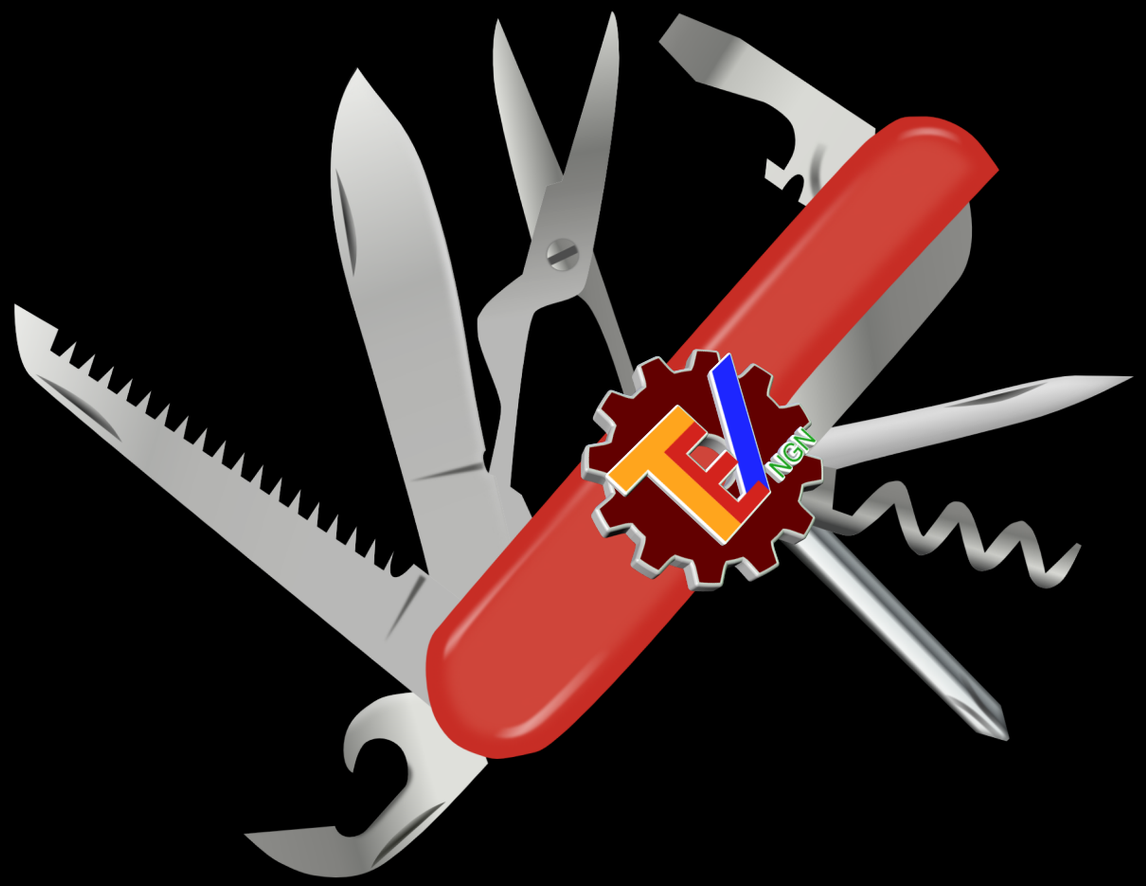
Event Manager

Common Event Structure

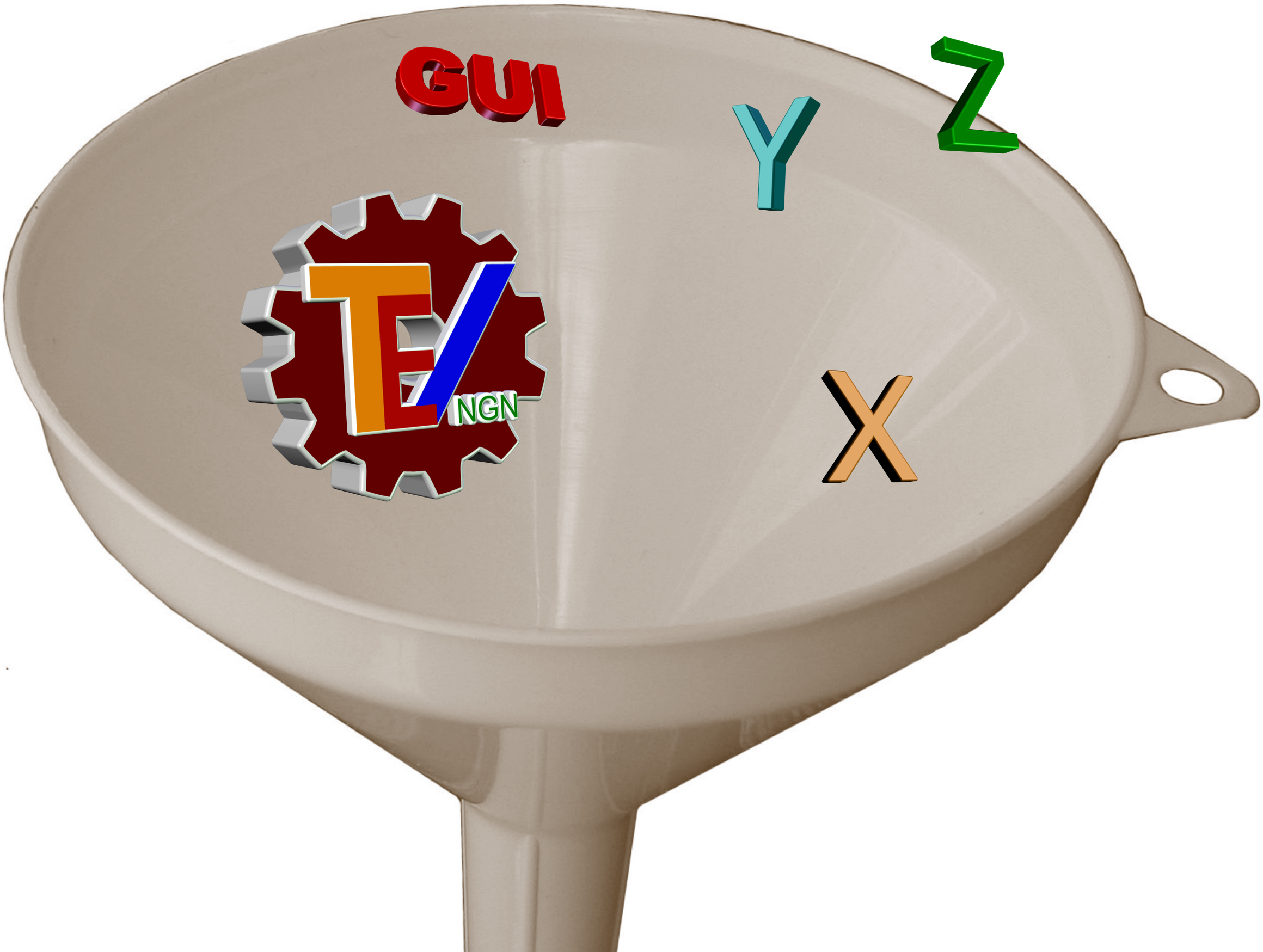
Operational Classes

TEV is an

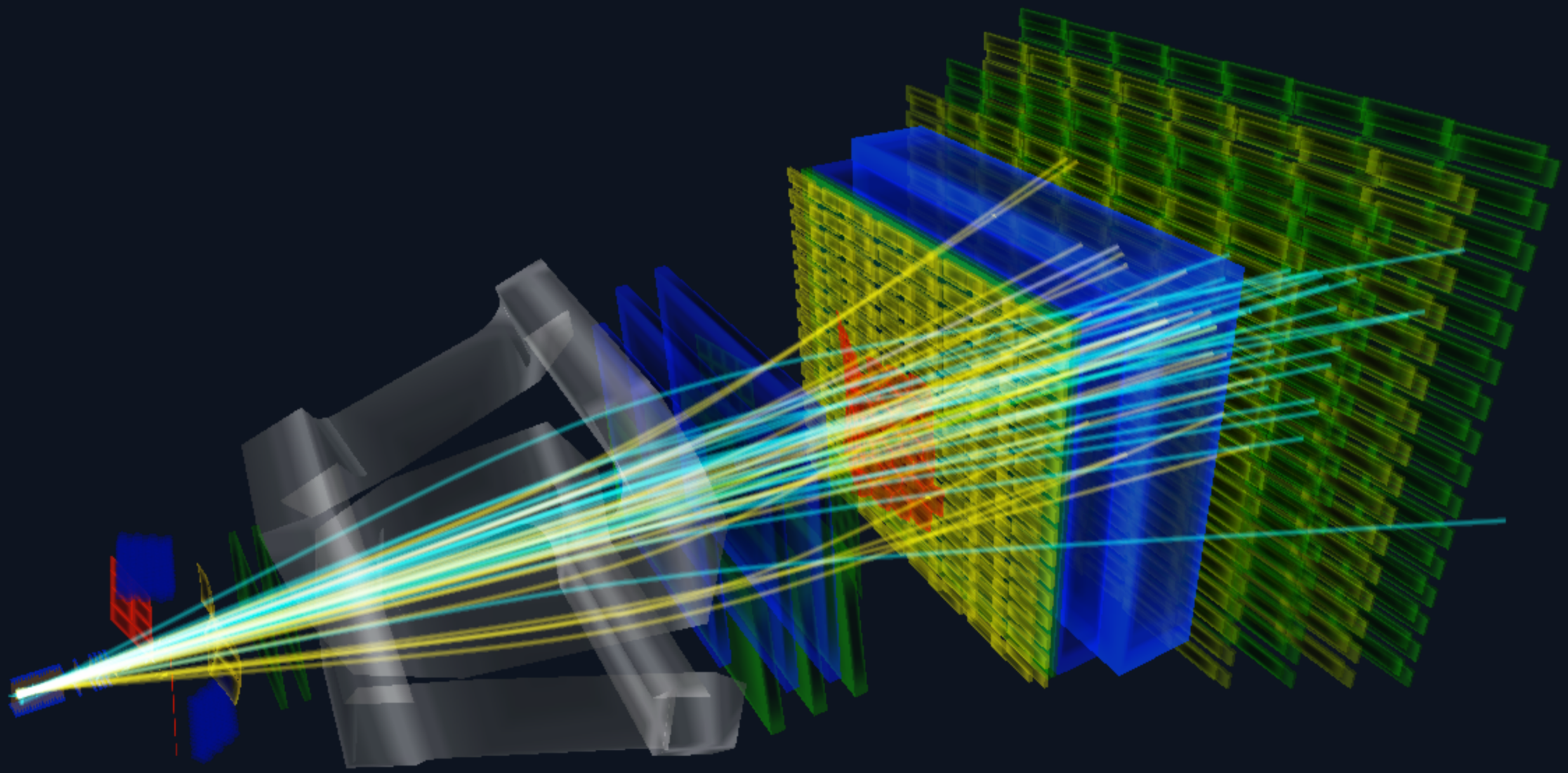
All-In-One Tool



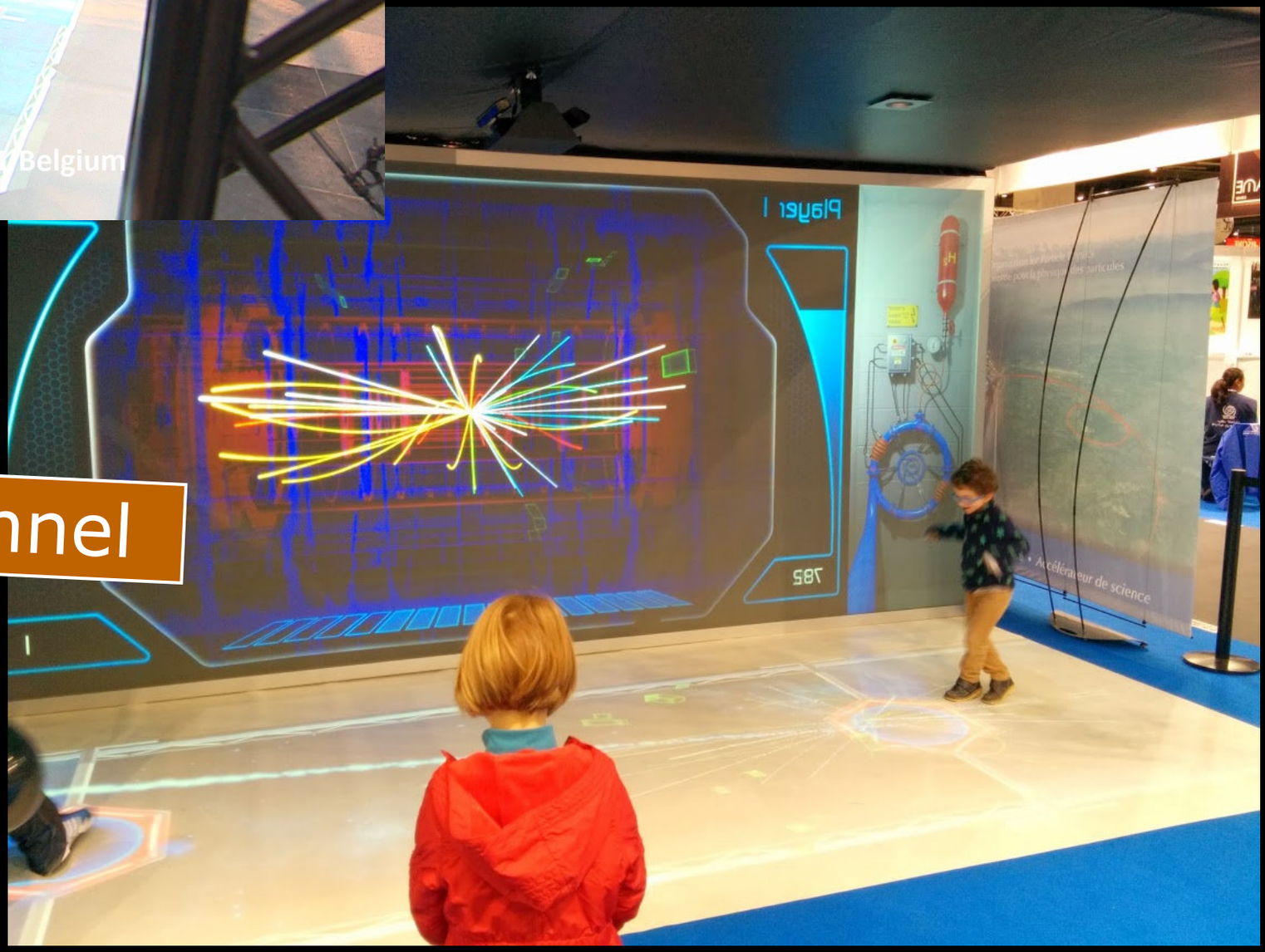
Made with Unity


GUI
Y
Z
X
TE
NGN

Official LHCb Tool



Being Used In The

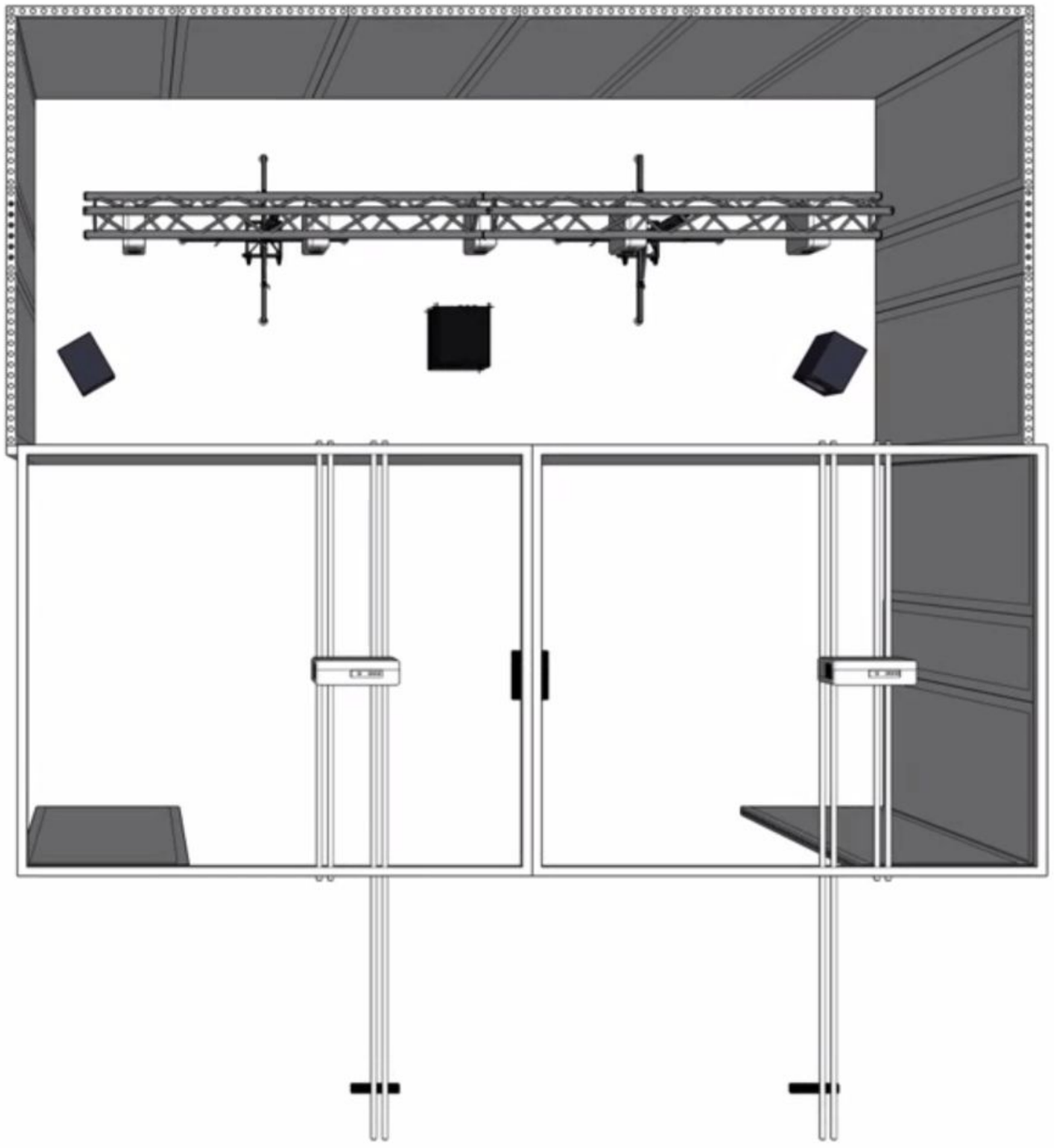


LHC Interactive Tunnel

// DIMENSIONS

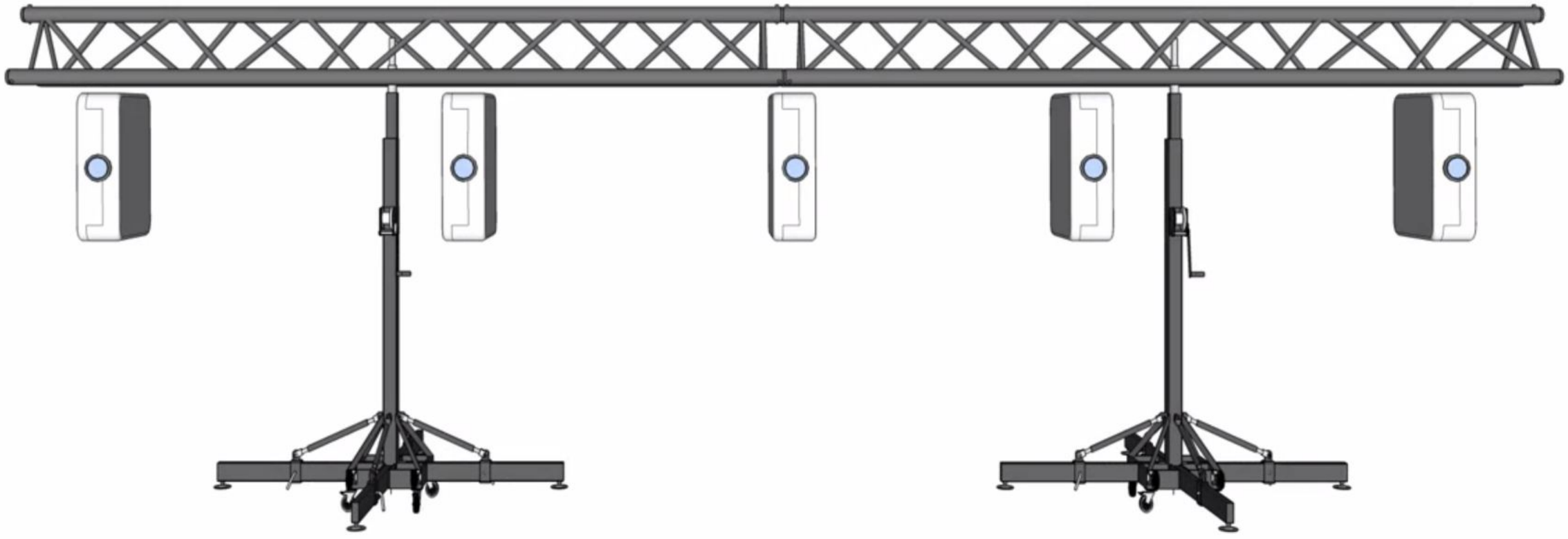
- Height - 3m
- User area - 6m x 2.5m
- Total floor area - 6m x 6m

LIT



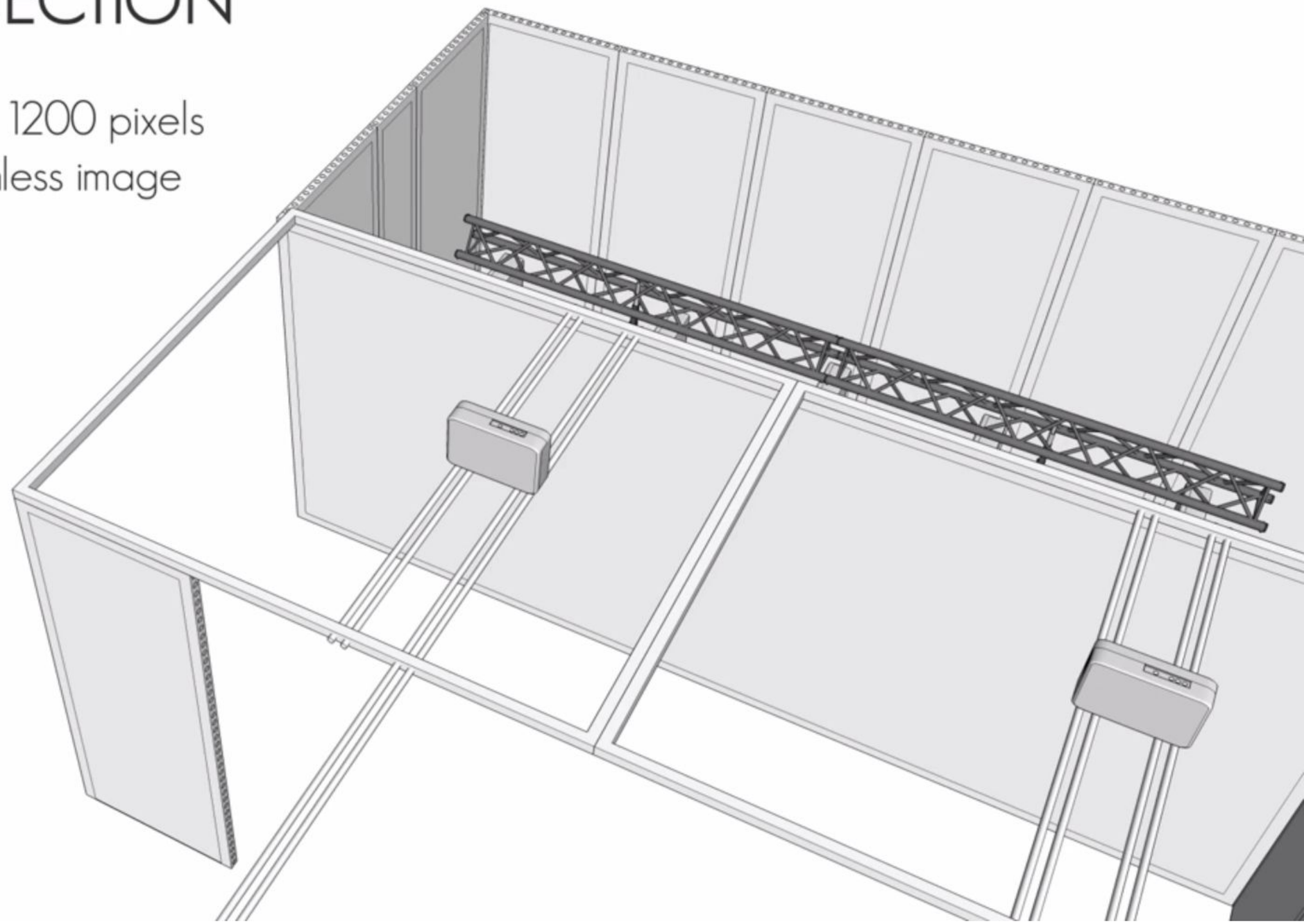
// FRONT SCREEN

- Five projectors
- Total resolution 6000 x 1920 pixels
- Rear projection prevents user shadow
- Edge blended for seamless image



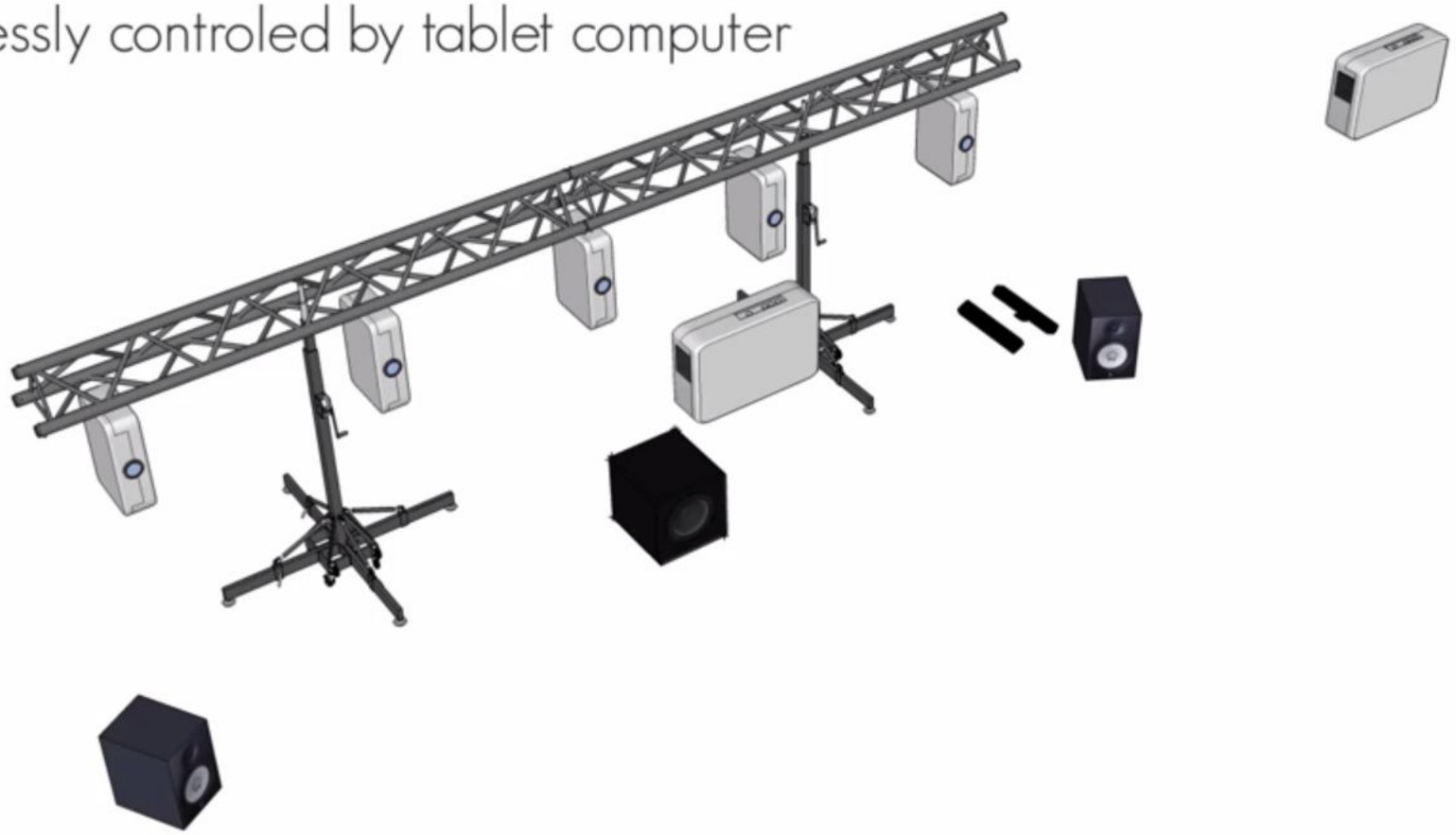
// FLOOR PROJECTION

- Two projectors
- Total resolution 3840 x 1200 pixels
- Edge blended for seamless image

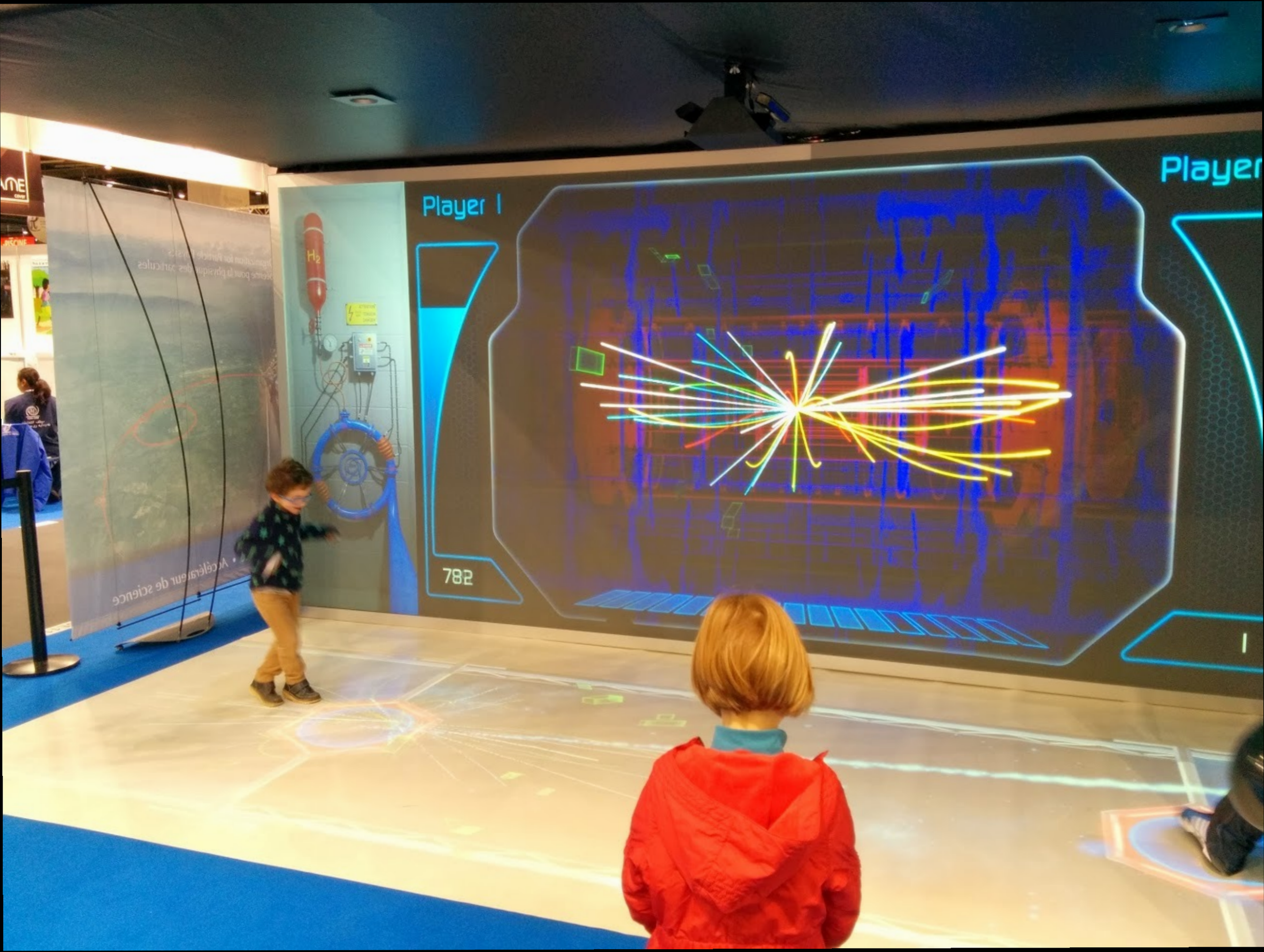


// COMMUNICATION

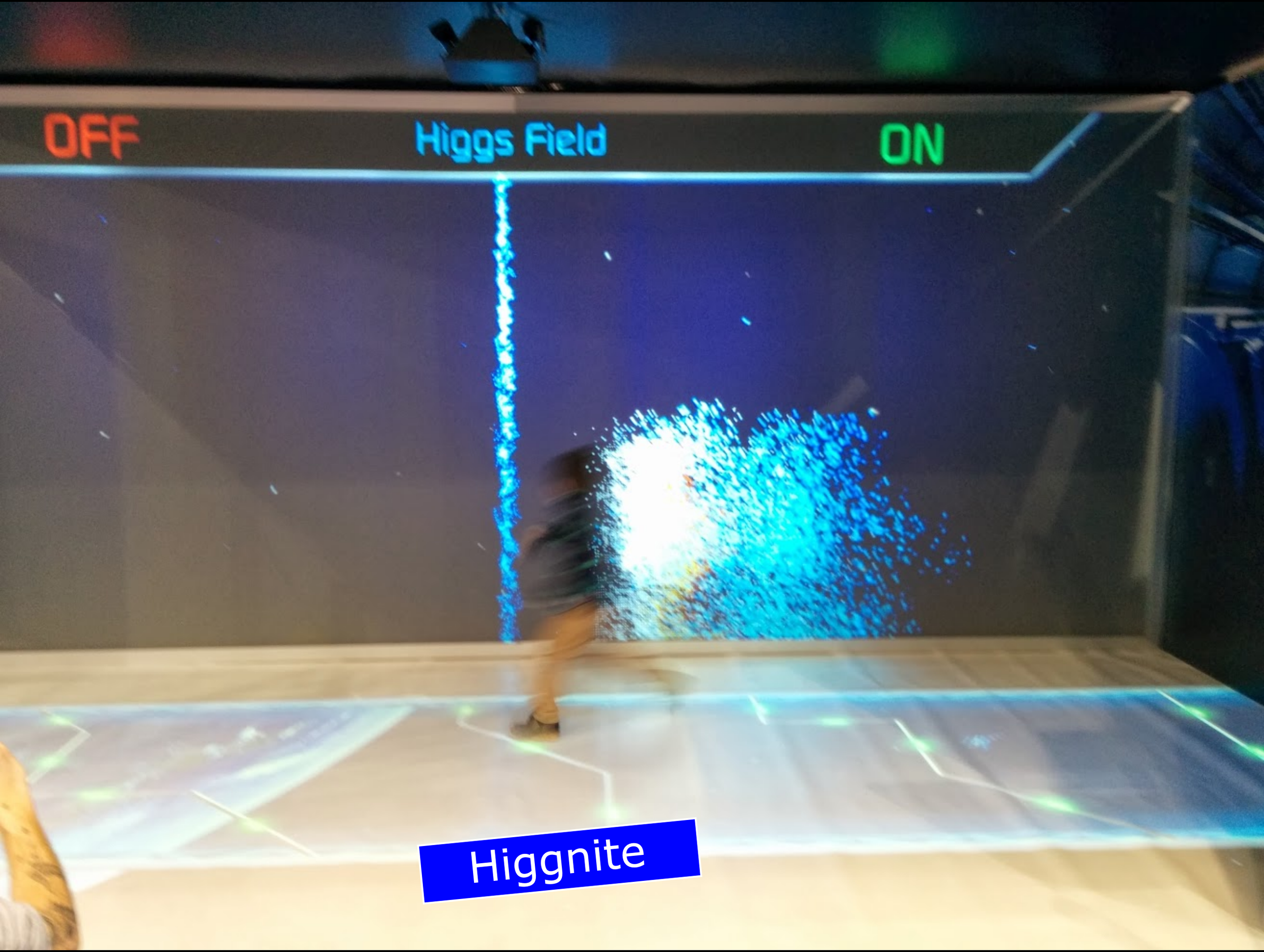
- Four computers
- Dedicated network
- System wirelessly controled by tablet computer



Proton Football


Player 1
Player
782

PLAYER 1
ANGRY BIRDS
PLAYER 2
4001
5000


OFF
Higgs Field
ON
Higgnite

OFF

Higgs Field

ON

Where

University of Würzburg

Frankfurt Book Fair

Annecy La Turbine

Palexpo Geneve

Point 5

Copernicus Science Center

Meyrin Shopping Ctr

The Globe

Welios Science Centre (Austria)

CERN Open Days 2013

Brussels Royal Academy of Sciences

CERN Open Days 2014

Vienna Academy of Sciences

NEMO Amsterdam

Thessaloniki Intl Fair

Fribourg University

Heureka (Helsinki)

University of Sofia

…

YEARS/ANS **CERN**

2014

Player 2
690
594
© Place Royale / RTL Belgium

IMPRESS

Interactive

Media

PRESentation

Software

There Are

Many Other

Presentation Softwares

Why Build

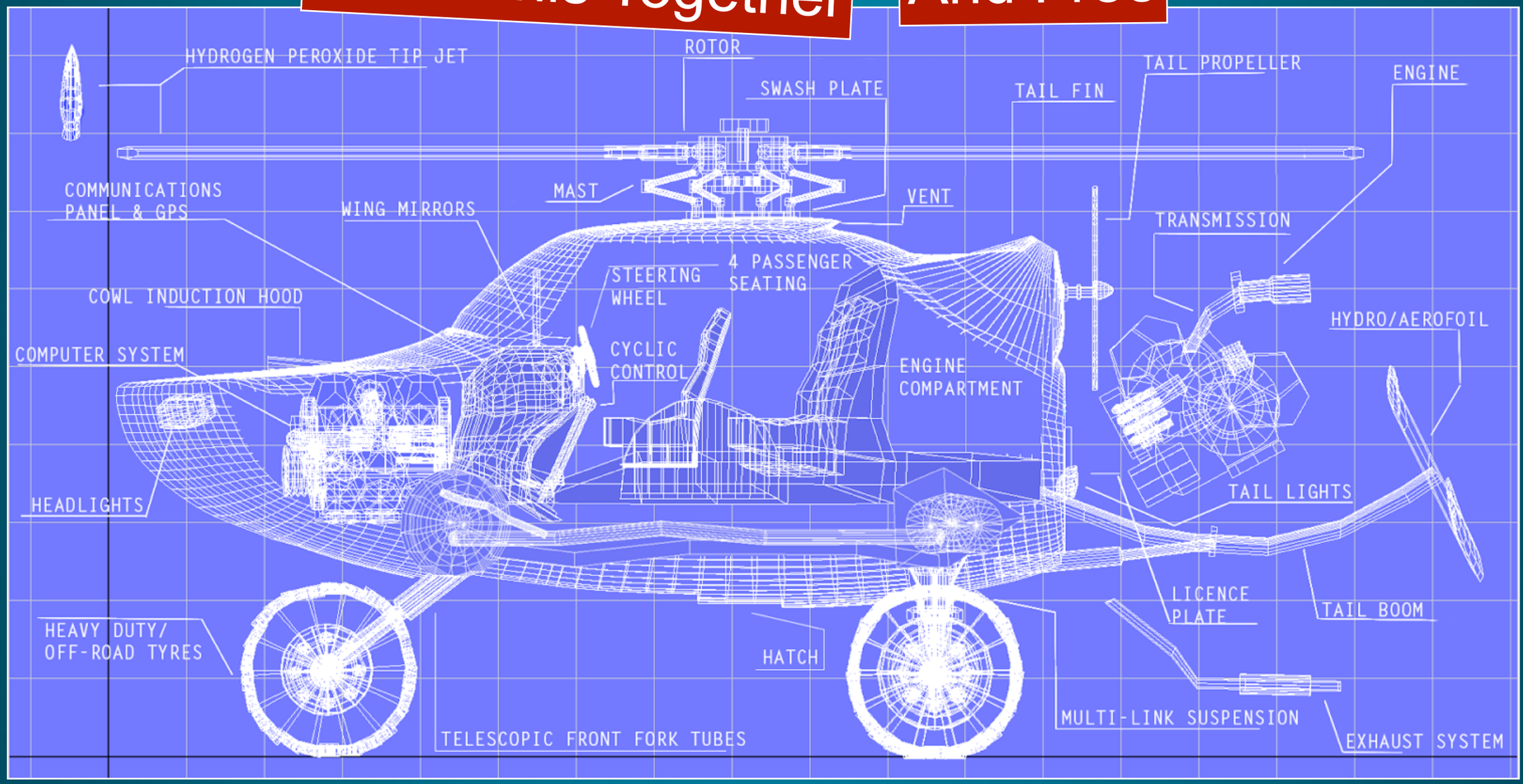
IMPRESS

?

A Car Analogy

Impress Was Conceived To Be

All Of This Together And Free



Media-Oriented

Images

PDFs

Videos

Sound

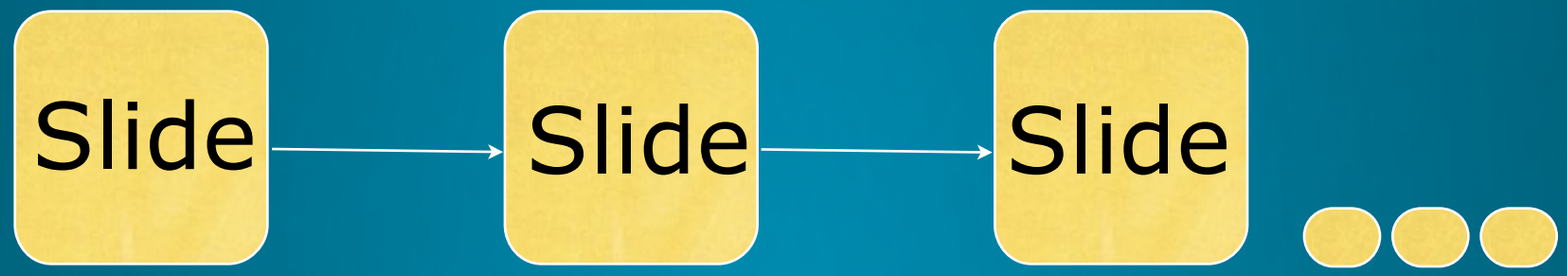
3D Scenes

Text

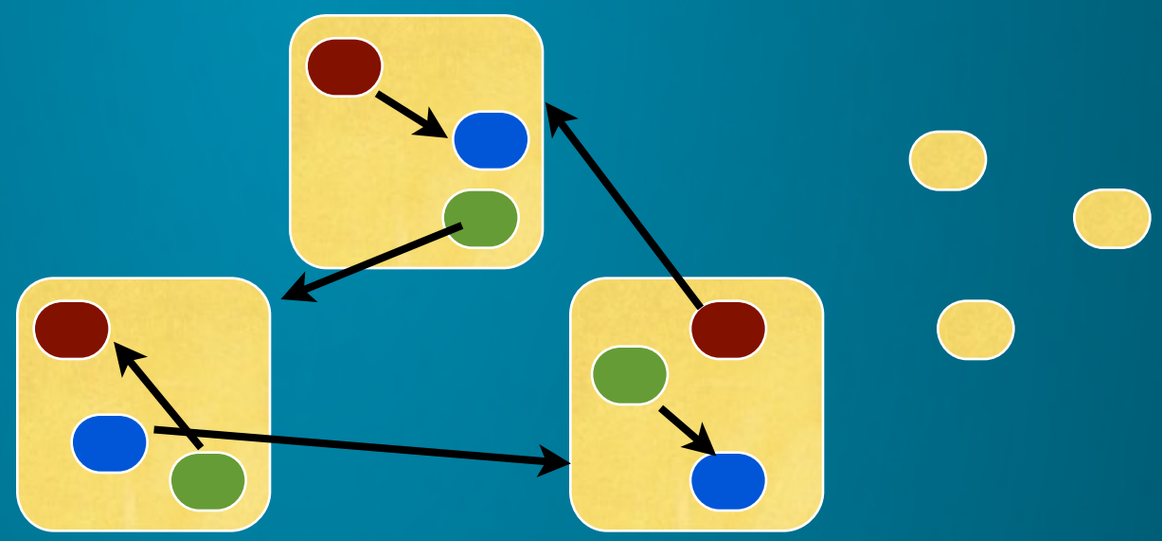
Interactive

Non-Linear

Linear



Non-Linear



Special Features

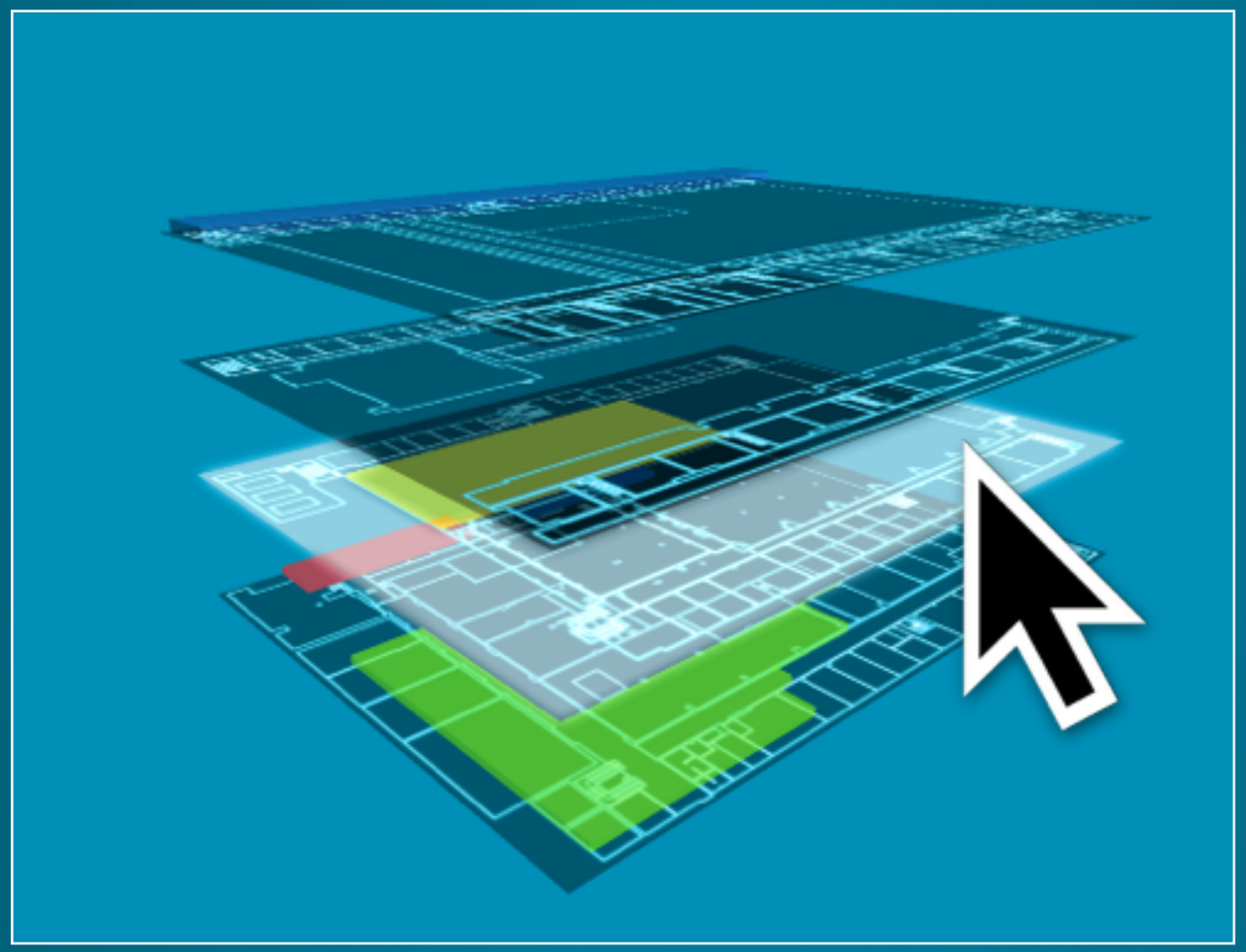
Multitouch

Special Features

OSC communication

Special Features

3D Interfaces



Special Features

Frame Grabber

Special Features

Webpages

Special Features

COP

(Controller Of Presentation)

A master slide whose elements

are present throughout the presentation

Can be used for controls and navigation

Special Features

Multilingual Support

Traction

action: Play

trigger: Click

action: Pause

trigger: Click

action: Stop

trigger: Click

Trigger-Action

CERN Education Activities
Latin American School
Natal, Brazil, 2011
NEW:
Asia-Europe-Pacific School
of High-Energy Physics
Fukuoka, Oct 2012
India, 2014
CERN School of
Physics
Hungary, June 2013
CERN Teacher Schools
International and National
Programmes
Beta Testing

Where

Impress at the special visit points on

Data Centre

AMS

SM18

CCC

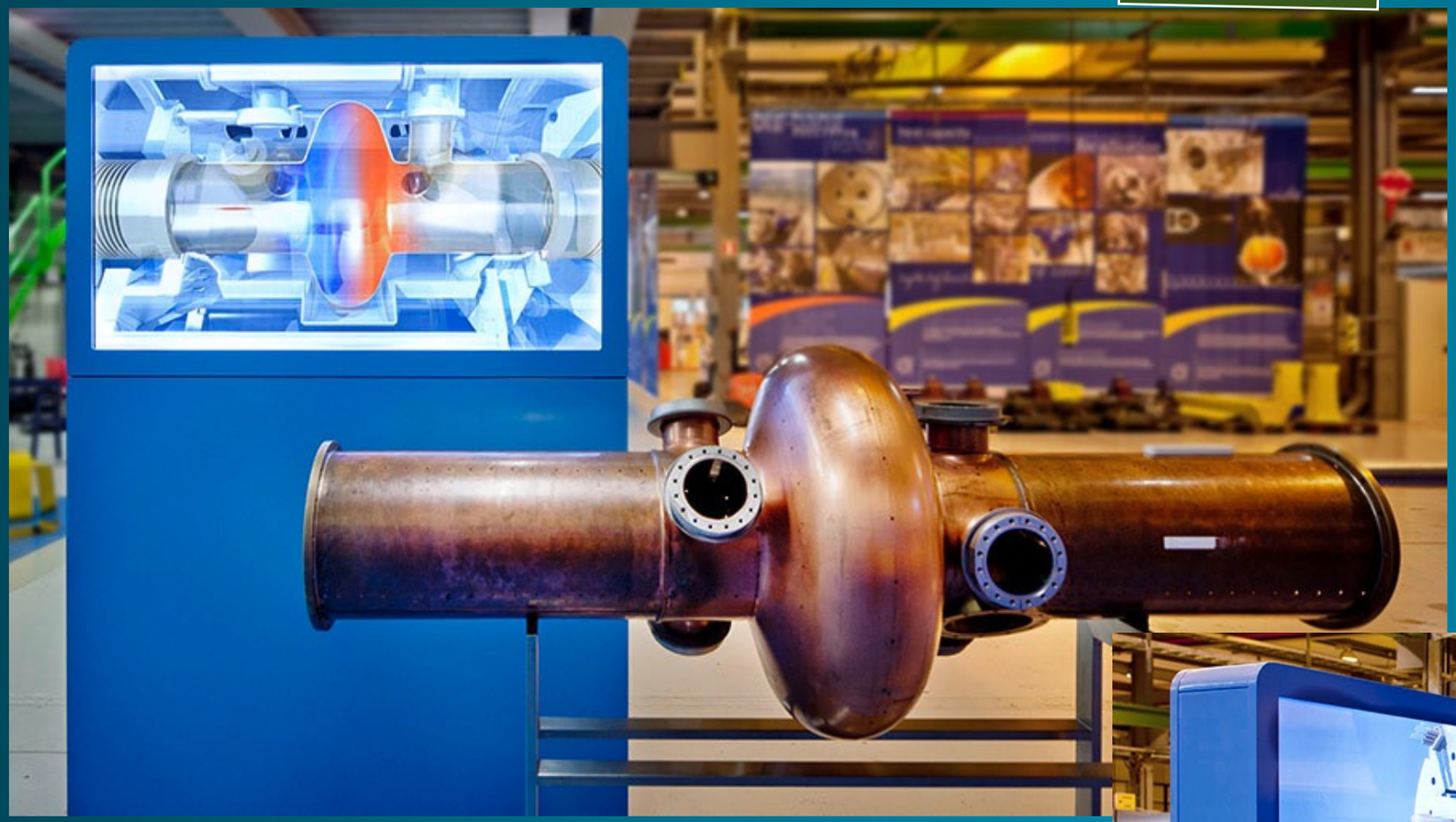
CLIC

Data Centre

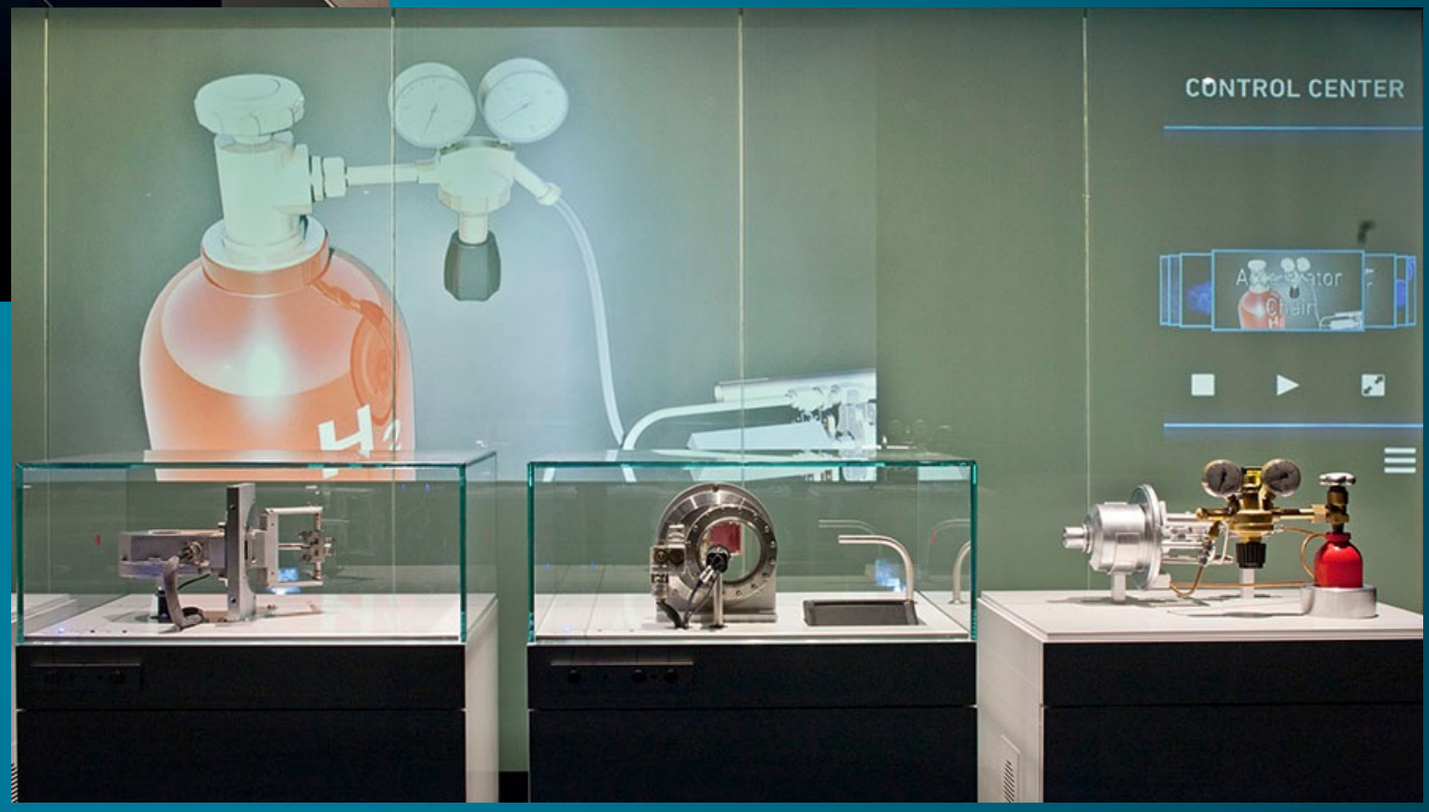
Data Centre

SM18

SM18



CCC



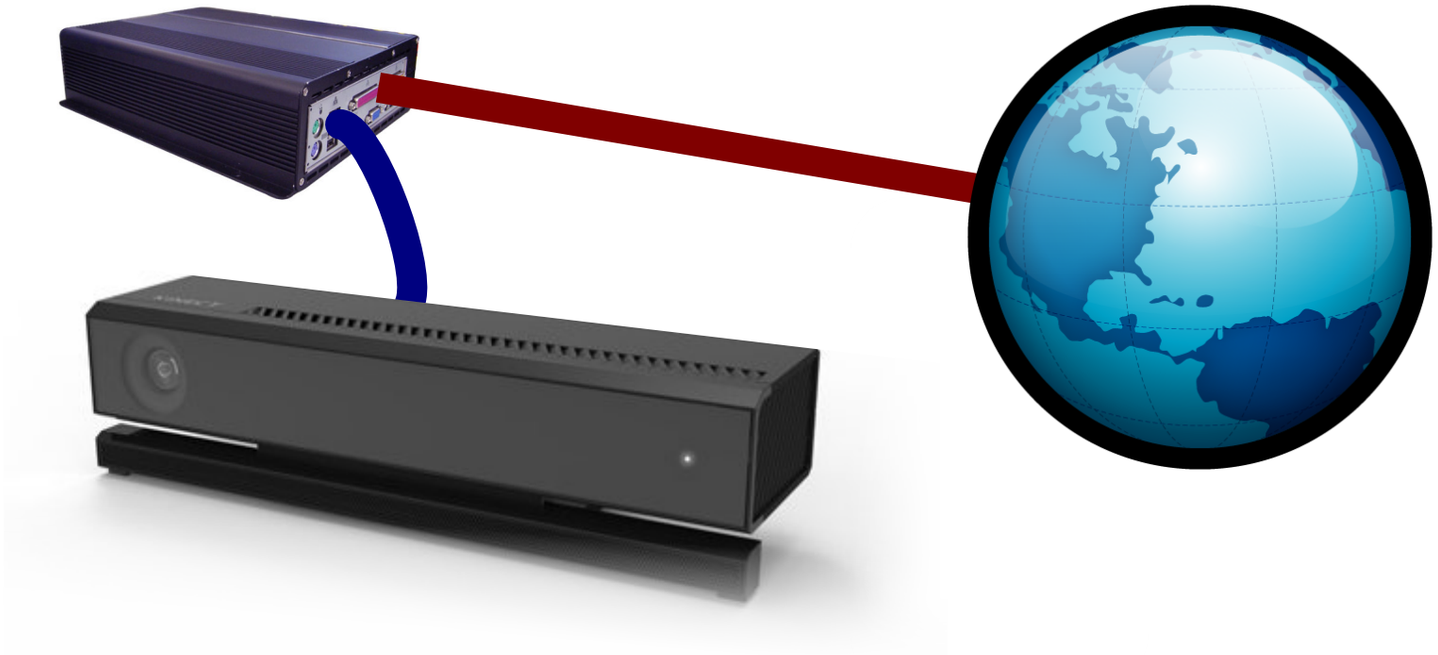
CCC

The Road Ahead

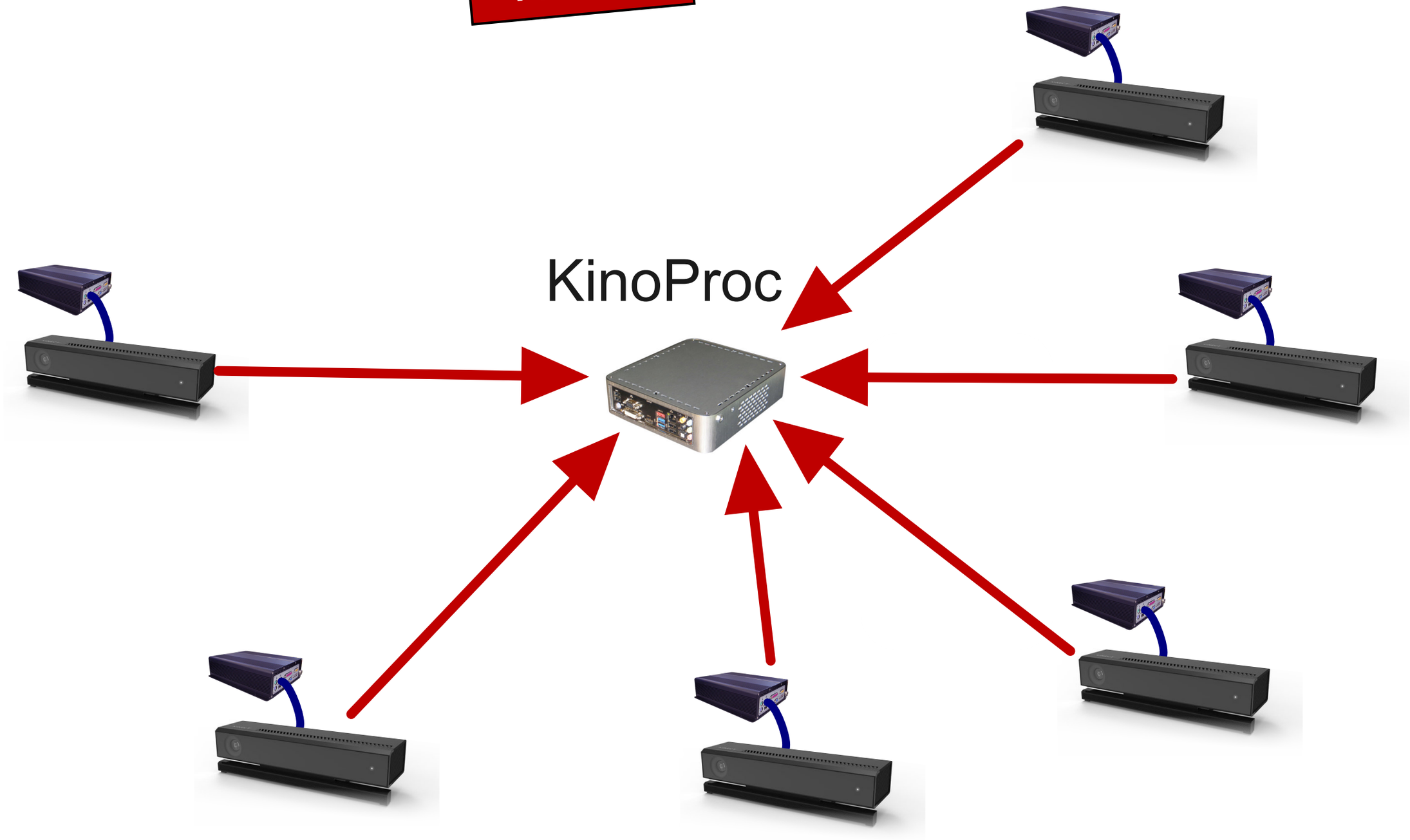
Soon The New
microcosm

KINO

(KInect NOde)



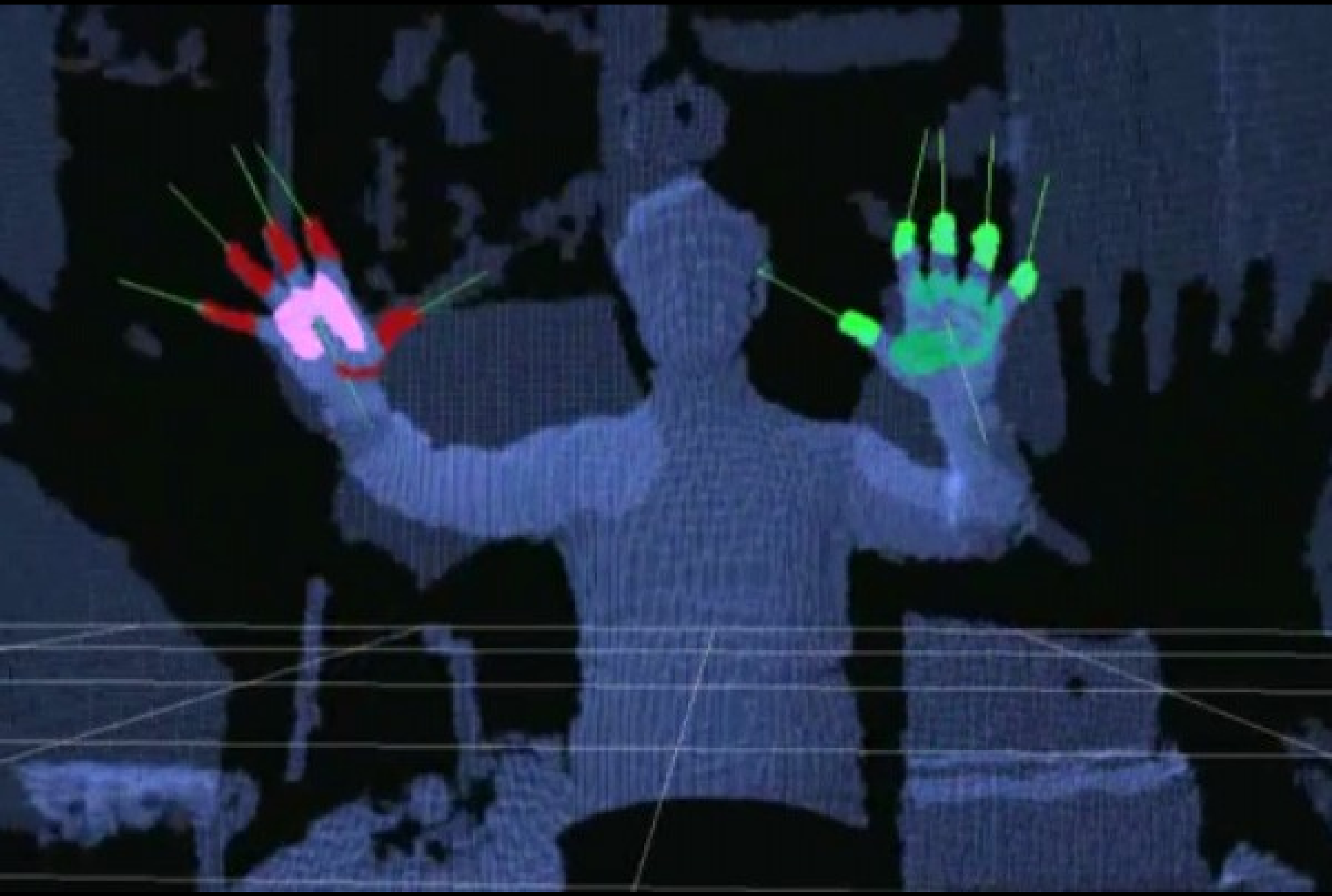
KINO



JEDI

(Joint Extension Distant Interaction)

625



HEAL

Omnitouch

Dynamap

CHARM

Cookit

For more info, visit

medialab.web.cern.ch