## Our Conceptual Vision:

Sophisticated question: visualisation software code should be executed or interpreted?

**B**inary **C**ode **P**rojects (BCP) *vs* **I**nterpreted **C**ode **P**rojects (ICP)

BCP Advantages:
1. Complex visualisation scenes
2. High performance

BCP Disadvantages:
1. Platform dependency
2. Need installations
3. Project is closed for 3rd party development

ICP Advantages:
1. Platform independence
2. No installations – Click_and_go
3. Open project for 3rd party development

ICP Disadvantages:
1. Limited scenes for visualisation
2. Low performance

Our Conclusions: there is no conflict. They fit each other depending on application objectives

- BCP is more suitable for professionally oriented users

- ICP is more for wide range of audience, outreach and education

## ATLAS Tracer

ATLAS Tracer is application for visualisation of Detector facilities and events:

- Web based 3D application for ATLAS outreach and education    https://atlas-tracer.web.cern.ch/
- Working platform is  three.js/WebGL

We have all benefits of ICP but also serious limitations

PERFORMANCE:
1. Long standstills during the downloading of detector geometries
2. Boolean processor is the weakest part from the point of view of performance and reliability

GEOMETRY:
1. We strongly believe that wireframe representation should be an option in the system and not only solution. But this is very hard to do!
2. We discovered if total number of facets in scene exceed 1.5mln then browser kills the process and application is getting stuck. It is possible to re-write the browser and remove this limitation however then project will lose ICP advantages. So geometry have to simplify in terms of number of facets.
3. ATLAS is huge. So it is almost impossible to use existing 3D models – simplification is necessary. We are using our own methodology for simplification and special tools like CATIA, 3DS-Max.

Application status:  it is still in development folder. You can reach it here:  http://cadcamge.ch/at/tmp