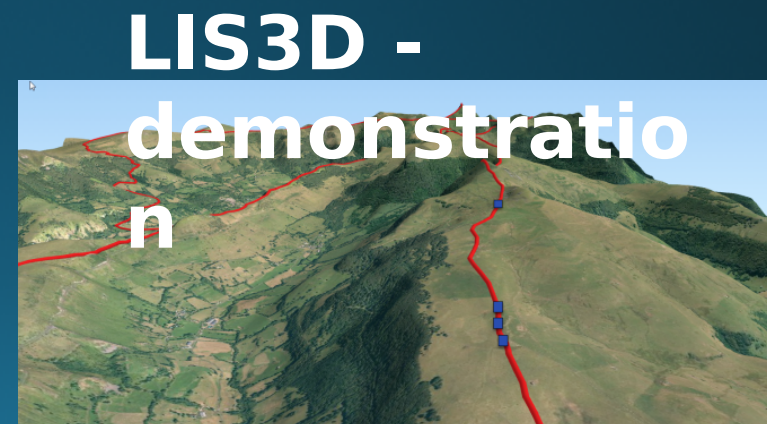


# Mobile application for 3D real-time vzualisation for outdoor sport competitions

**LiveInSport SAS - [CHU Lille  
& Univ.Lille, EA 2694]**

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# LiveInSport, a company dedicated to outdoor sport events follow-up

Prenez le virage du numérique  
sur tous vos événements sportifs !

## Pour l'organisateur

Positions géographiques  
des sportifs en temps  
réel pour assurer leur  
sécurité.



## Pour l'animateur

Situation de la course  
en direct, positions,  
écarts et commentaires  
simplifiés



## Pour les internautes

Suivi de l'épreuve  
accessible à tous les  
internautes via un listing et  
une carte interactive



## Pour les proches

Possibilité de se rassurer,  
anticiper facilement les  
lieux et les horaires de  
passage.



# The Trail « La Pastourelle », 53km (Cantal department, May 2016)





# The Swim&Run « Côte de Vermeille » 60km / 44km / 25km / 12km (Eastern Pyrenees department, June 2106)





# Cycle-trail of « Les bosses de Provence »

## 164km

(Bouches du Rhône department,  
September 2016)





# The Marathon of « Cognac », 44km (Charente department, November 2016)





# 2D modelization – Google Maps

00:00:00

⊖ x32 ⊕



SwimAndRun 12.7km



Swim&Run of « Côte de Vermeille », 25th June 2016



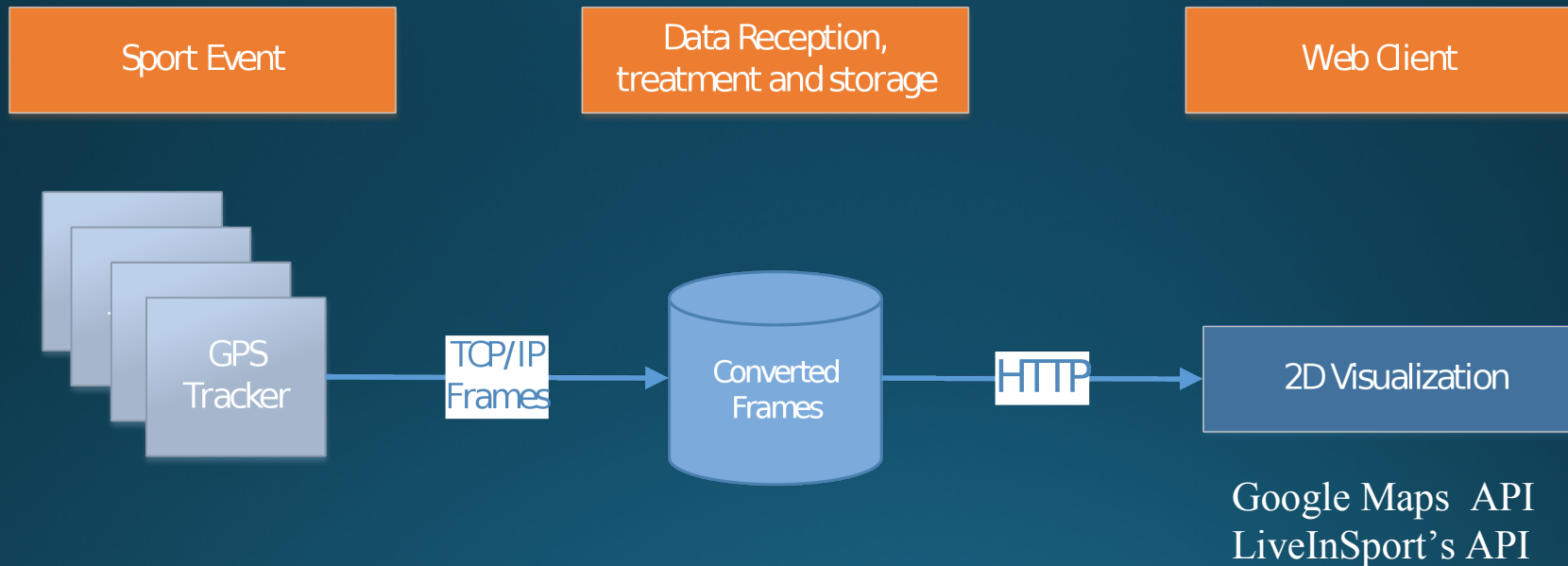
# 2D Modelization GPS Coordinates vs GPX Track matches



Calculation of traveled distance  
by segmentation of the track

Transit time calculations  
from discrete temporal data

# 2D modelization Real-time process



# 3D Modelization

## **Goal**

Immerse the audience in the sporting event.

**Step 1** : Proof of concept (Oct 2016- June 2017)

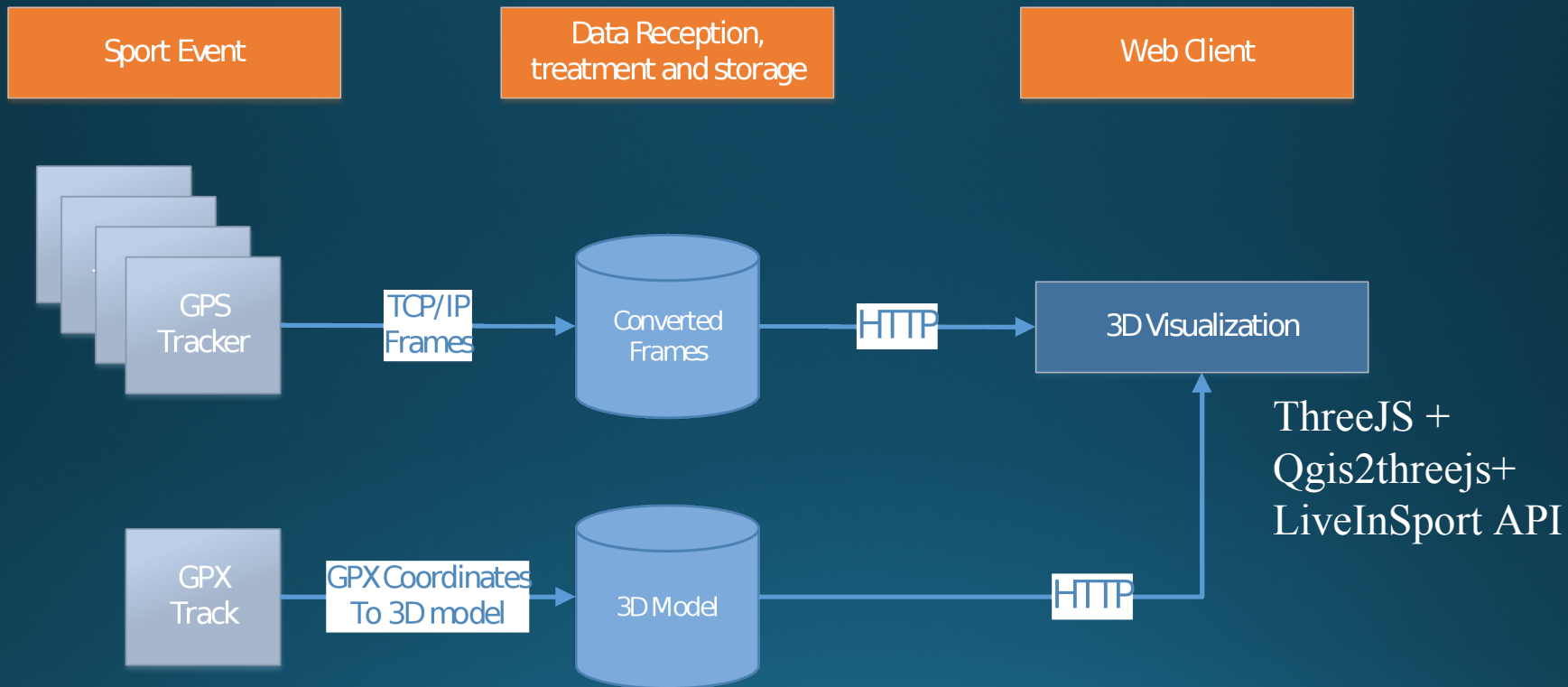
3D Dynamic visualization of existing sport events

## **Collaborative research activity**

CHU of Lille - University of Lille / LiveInSport



# 3D Modelization Real-time process

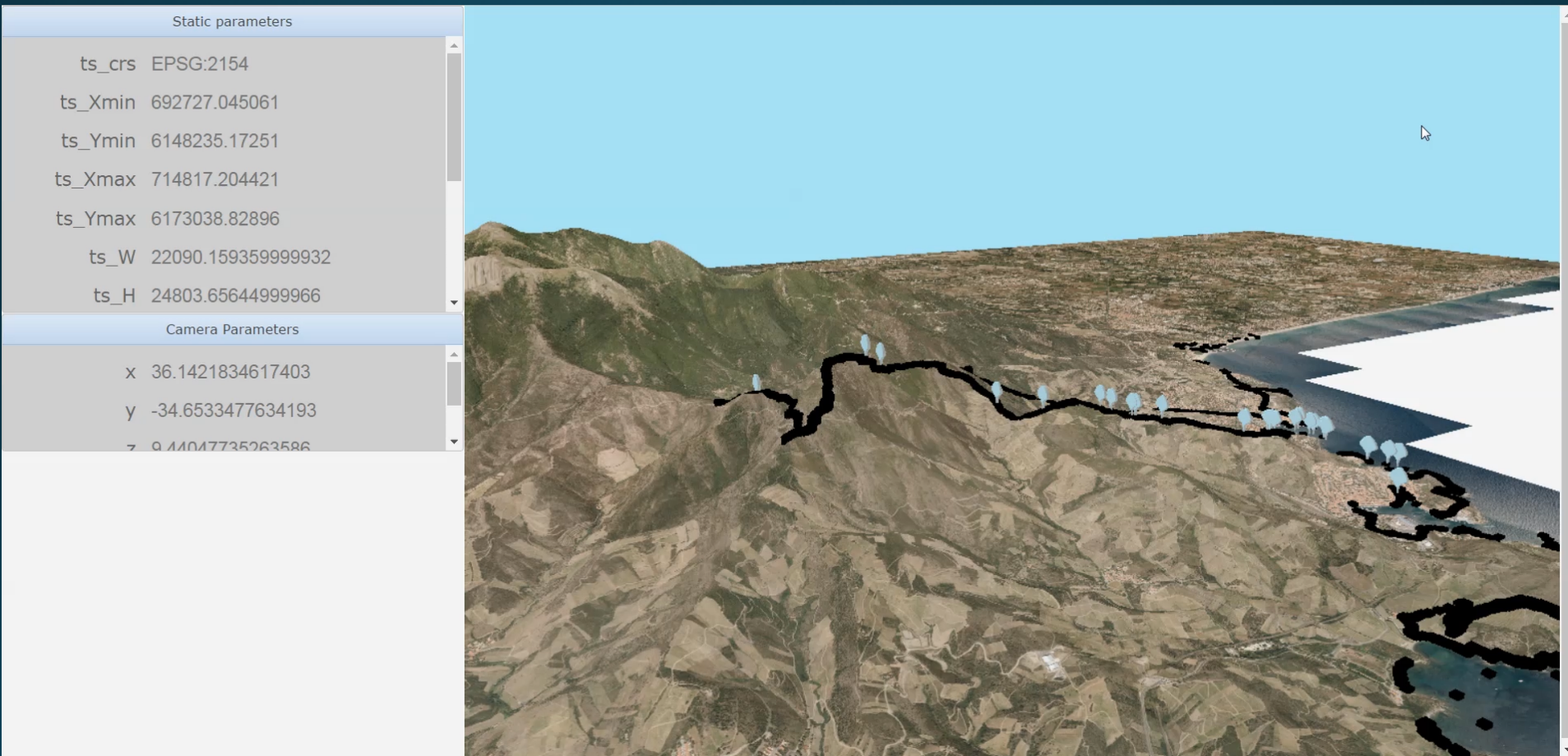


Digital Elevation Model (DEM) + Orthophotography, Web Map Services (WMS)

Sources: CRAIG, IGN

QGIS software /ThreeJS Library /Qgis2threejs plugin

# 3D Modelization – ThreeJS



Swim&Run of « Côte de Vermeille », 25th June 2016

# Next Steps and locks

## WHAT WE DID

- **Step 1** : *Proof of concept (Oct 2016- June 2017)*
  - 3D Dynamic visualization of **existing** sport events

## NEXT STEPS

- **Step 2 : Development** (July 2017-March 2018)
  - 3D Dynamic visualization of **live** sport events
  - Add realism (camera positioning, field annotation)
- **Step 3** : Commercialization (2018)

## TECHNICAL LOCKS

- Keep High Definition 3D Models with lighter model weights
- Keep Maintaining a level of calculation compatible with a mobile application



# Aknowledgments

This project has been realized thanks to :

**University of Lille**

***CHU of Lille***

Many thanks to the designers of open-source solutions :

***Minoru Akagi***

***mrDoob***

Many thanks to the Academic Network

***OSGeo***

**Thank you for your attention**