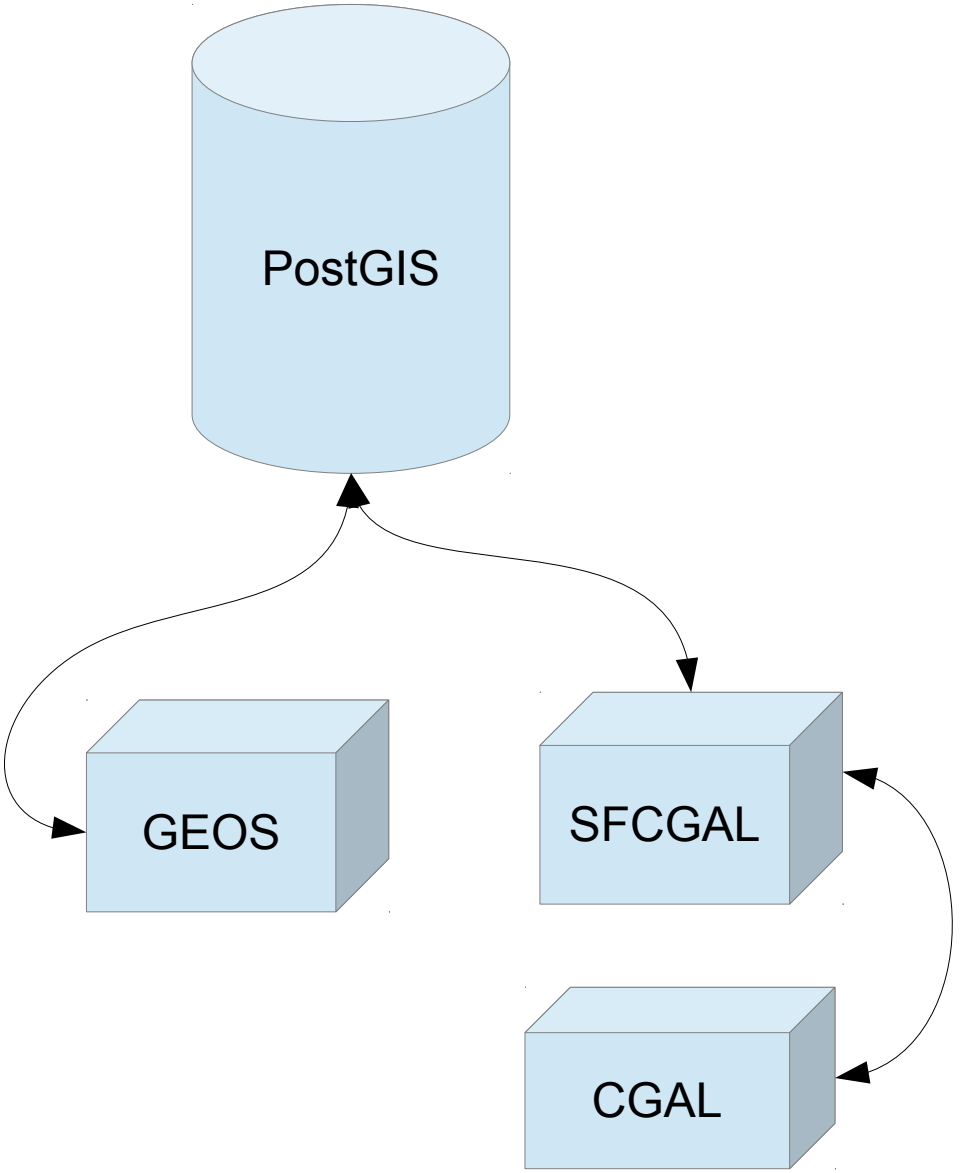
A new Dimension to PostGIS : 3D

Oslandia Team

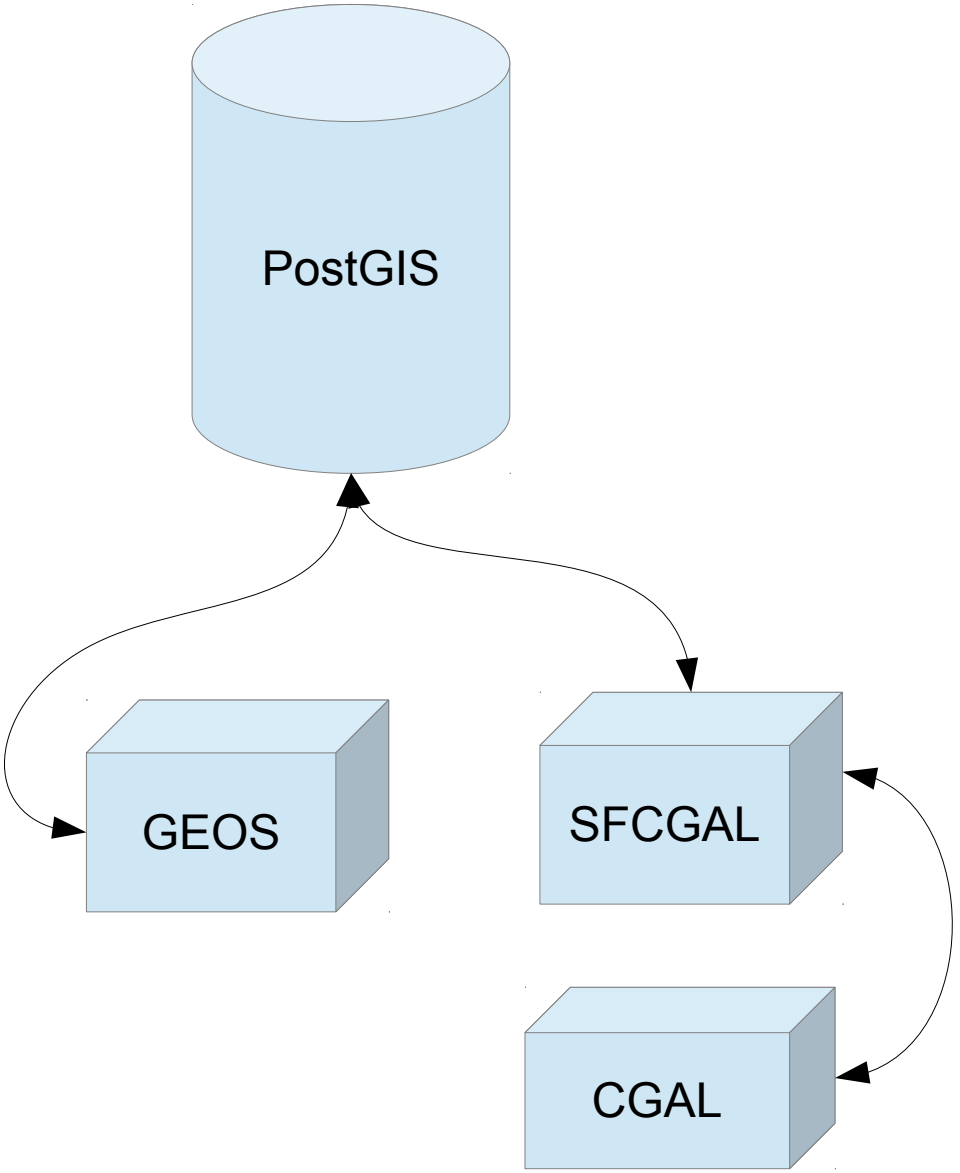
FOSS4G 2013 – Nottingham

E-PLU Project

2010
2013
2015


PostGIS
GEOS
SFCGAL
CGAL

CGAL


PostGIS
GEOS
SFCGAL
CGAL

ST_3DIntersection

ST_Tesselate

ST_3DArea

ST_Extrude

ST_ForceLHR

ST_Orientation

ST_MinkowskiSum

ST_StraightSkeleton

SFCGAL functions

ST_3DIntersection

ST_Tesselate

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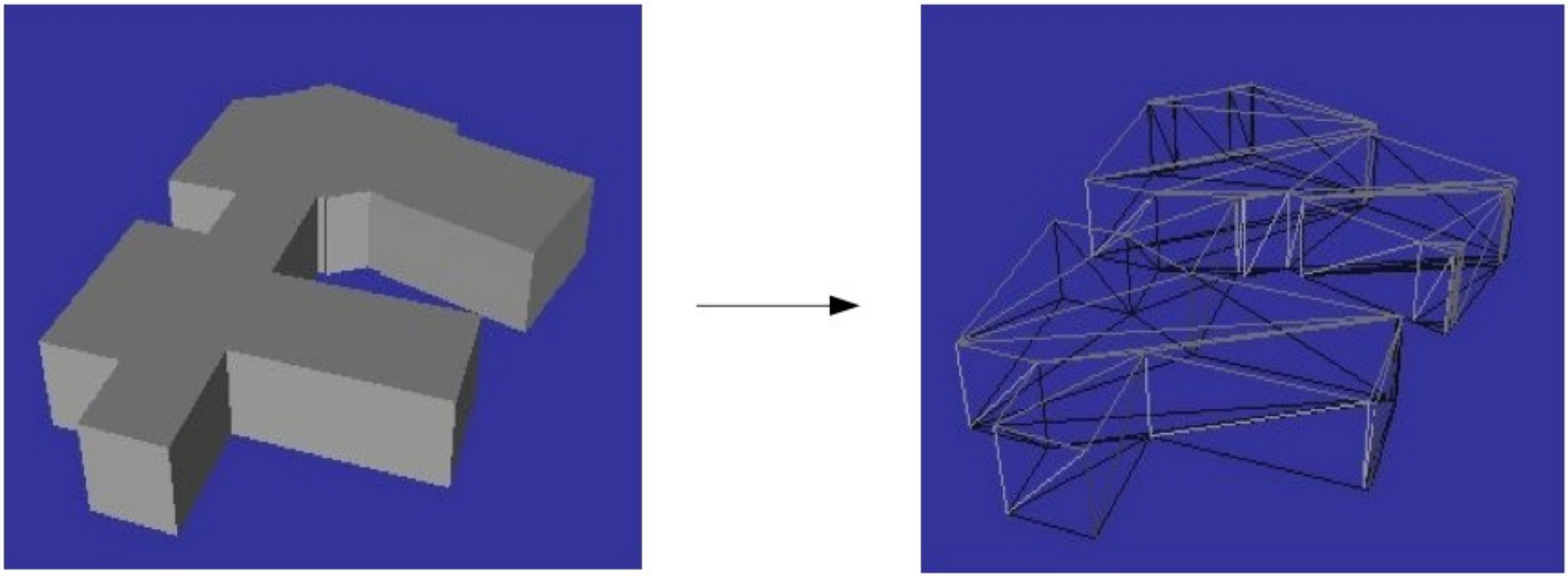
SFCGAL functions

ST_Tesselate



ST_StraightSkeleton

2D Building
Footprint

Straight Skeleton

Extrusion
& roof computation

ST_Intersects

ST_3DIntersects

ST_Intersection

ST_Area

ST_Distance

ST_3DDistance

Both GEOS & SFCGAL

```
SET postgis.backend = 'geos' ;

SET postgis.backend = 'sfcgal' ;
```

Regress tests PostGIS for GEOS	OK
GardenTest PostGIS	OK
3D Invalid geometry proof	OK
Wide user community	not yet

SFCGAL perfomances similar to GEOS ones for 2D

(but with SFCGAL we gain arbitrary precision)

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(but with SFCGAL we gain arbitrary precision)

But some 3D computation could take time.

ISO 19107:2013

ISO 19125:2013

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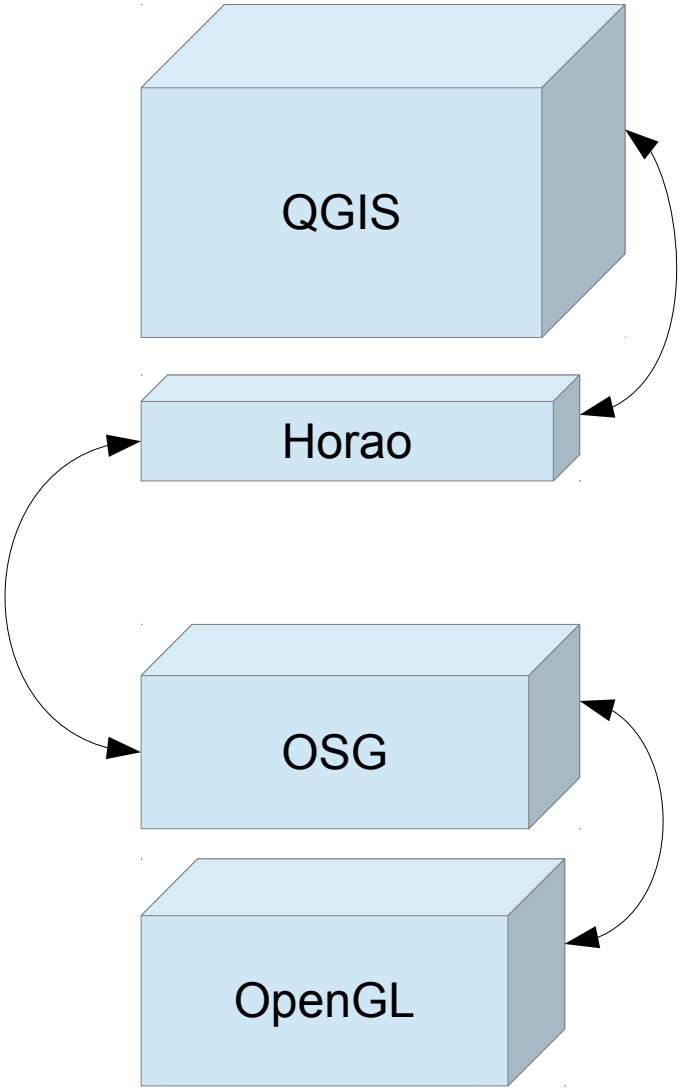
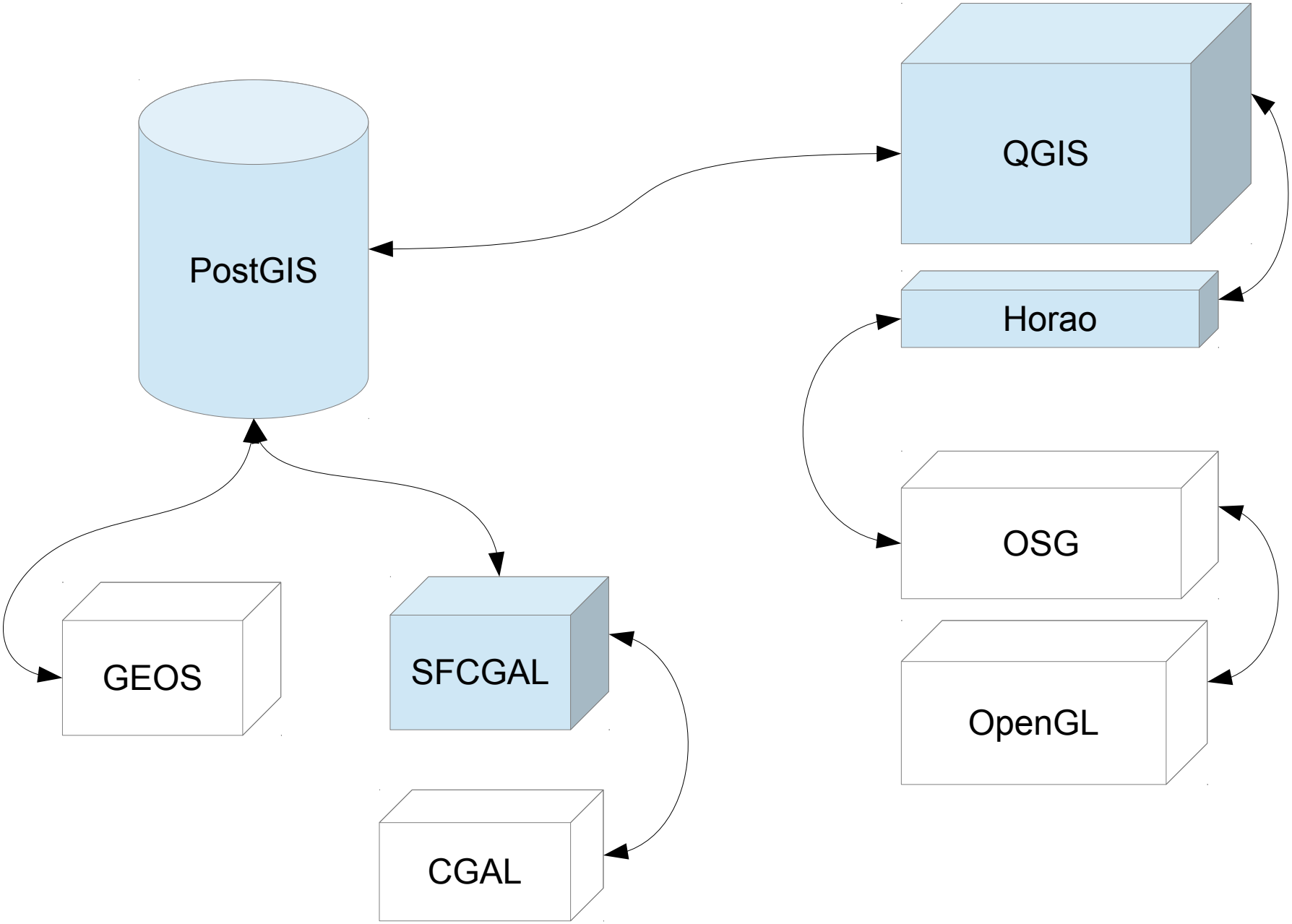

QGIS
Horao
OSG
OpenGL

https://vimeo.com/74869530


PostGIS
QGIS
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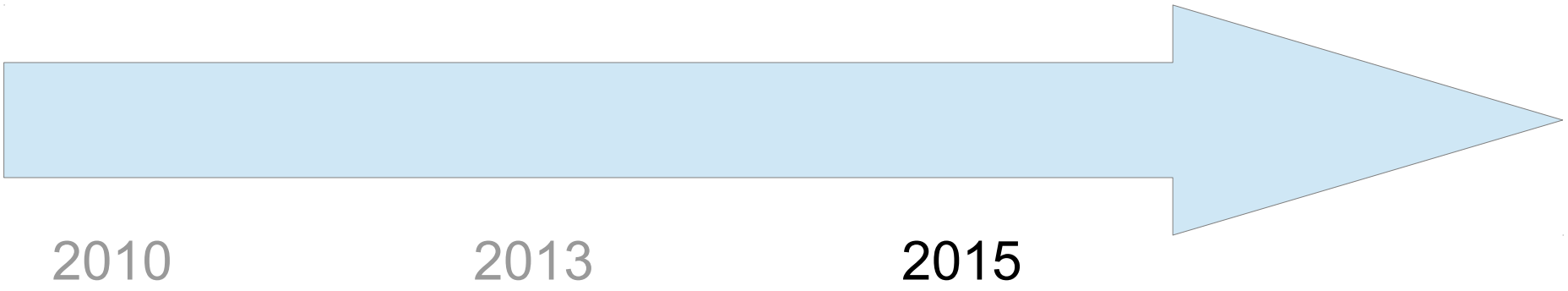
CGAL

PostGIS	www.postgis.org
SFCGAL	www.sfcgal.org
Horao	www.horao.net
QGIS	www.qgis.org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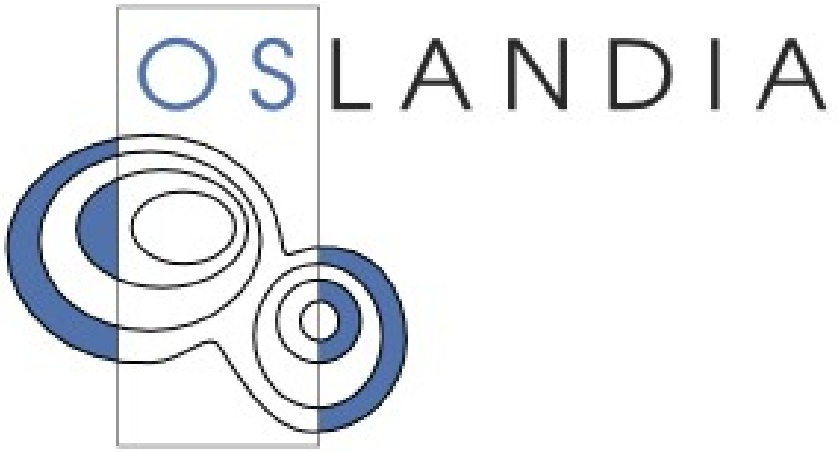

www.oslandia.com

https://github.com/Oslandia/presentations

https://github.com/Oslandia/Workshops