



BUILDING INTEGRATED PHOTOVOLTAIC (BIPV): TRAINING WORKSHOP AND GUIDED TOUR

BIMSOLAR Software user story DEMO 6 (TECNALIA)

Philippe ALAMY, CADCAMation

Donosti, M2, TECNALIA, 6 Nov 2019

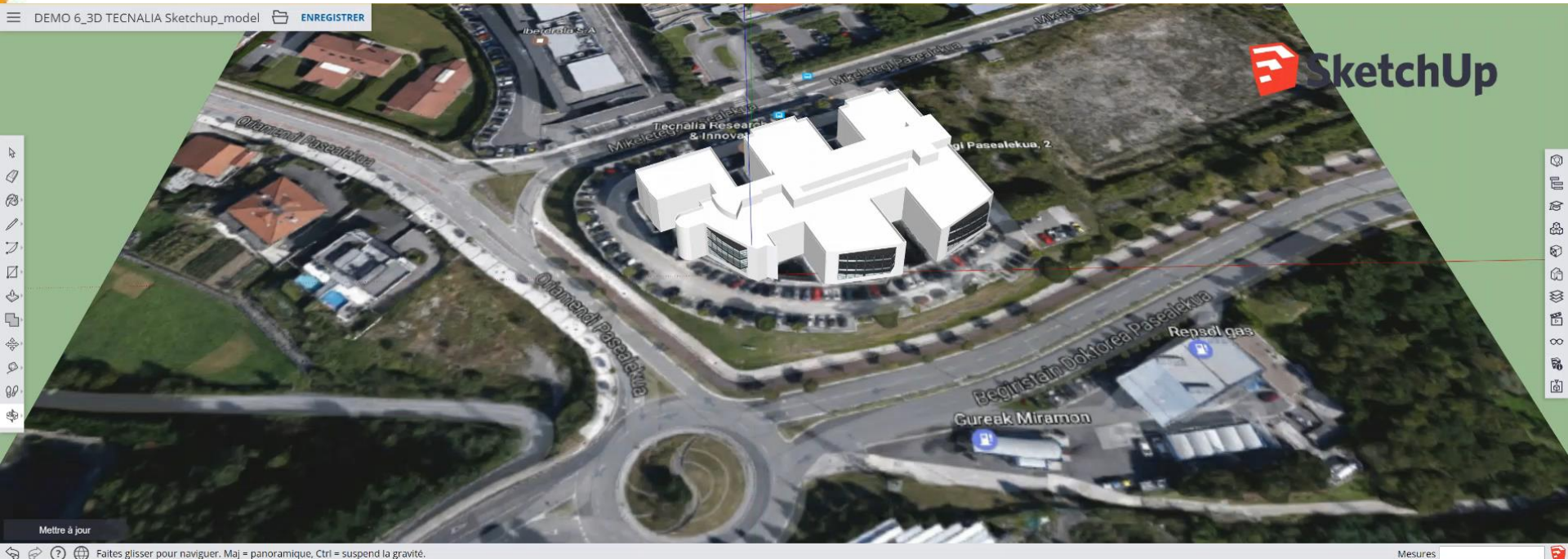


*This project has received funding from the
European Union's Horizon 2020 research
and innovation programme under grant
agreement N° 691768*

Identify your project / Location with common tools



Sketch / Design your 3D model



This mock-up (from BEAR-ID Architects) is as accurate as possible speaking of geometry (global, walls, windows). You can already set-up your BIPV installation (grid)

Stick to architectural configuration for BIPV

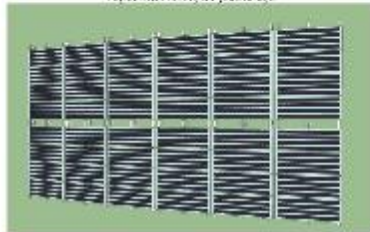
Guideline GA6: Architectural Integration, Demo D6 Spain, San Sebastian.



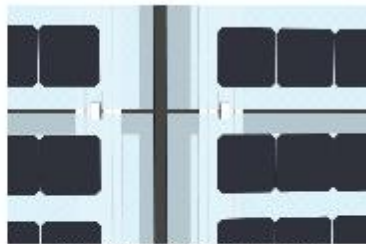
Final design and installation adopted in the real demo-building



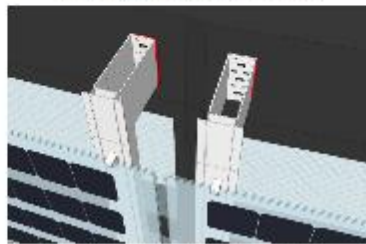
Exterior view of the building



Exterior view of the building with BIPV modules



Exterior view of the building with BIPV modules

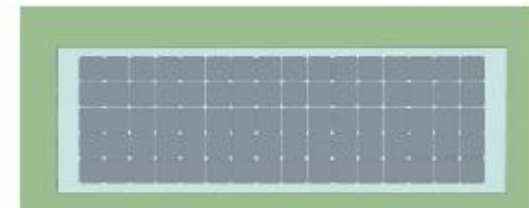


Exterior view of the building with BIPV modules

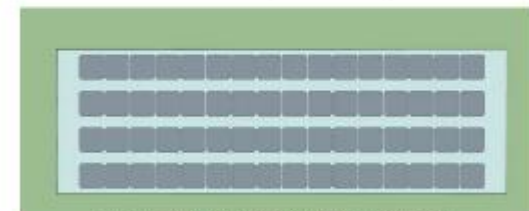
Demo D6 Spain, San Sebastian.



Dimensions of the existing module



Device module with 5 rows of 16 cells. Total of 80 cells.

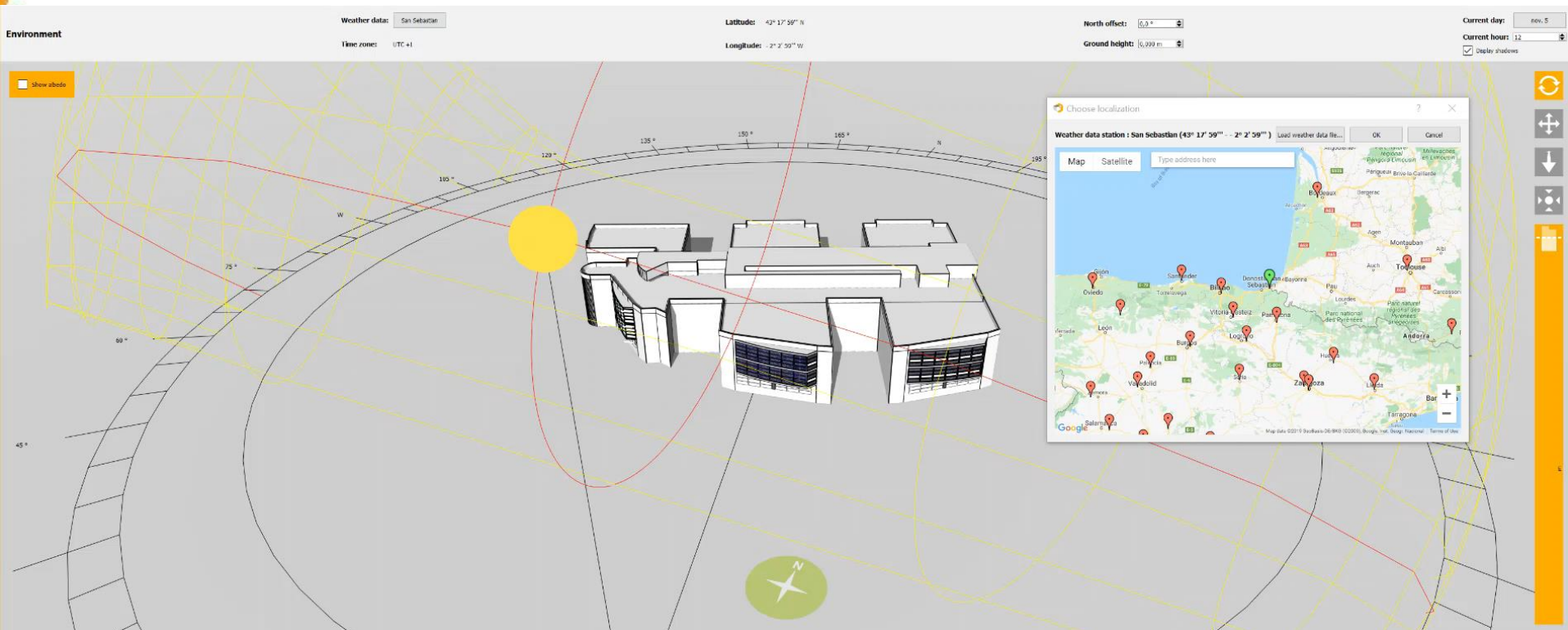


Low device module with 4 rows of 16 cells. Total of 64 cells.

Aesthetic issues have to be anticipated



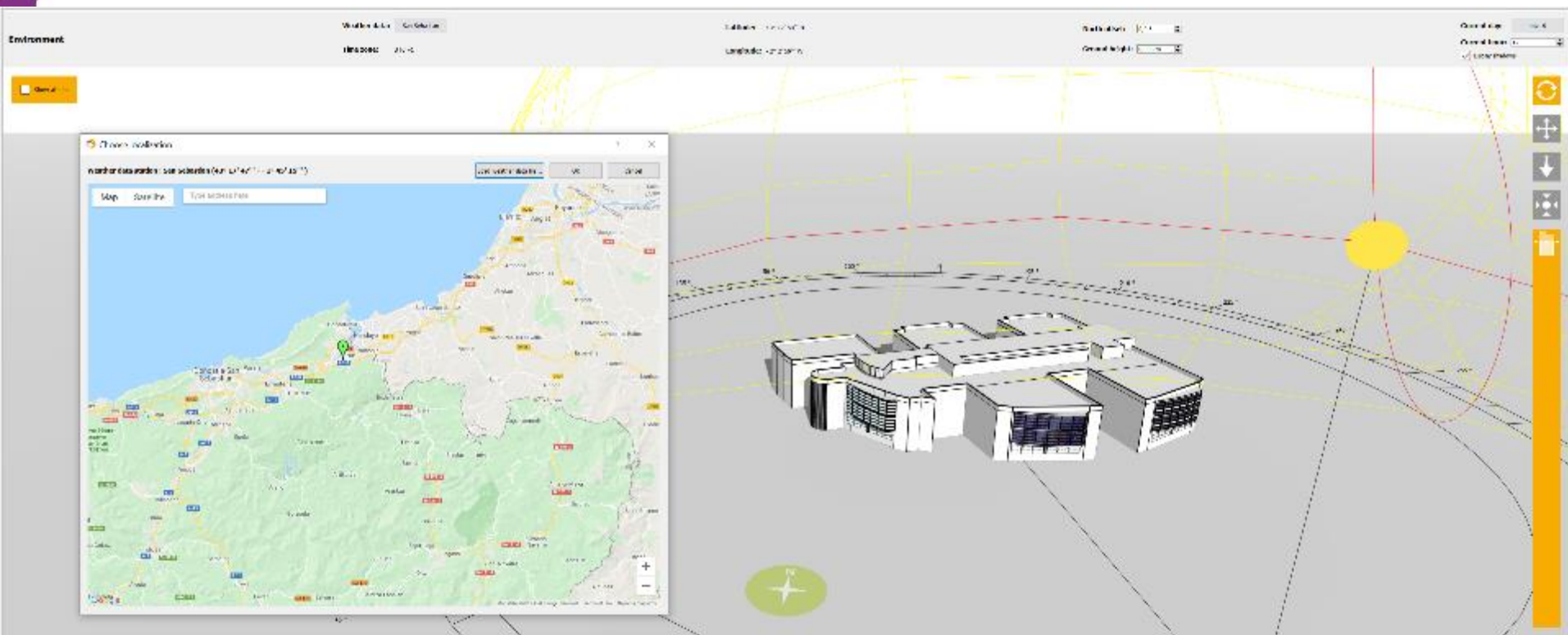
Video: BIPV modeling



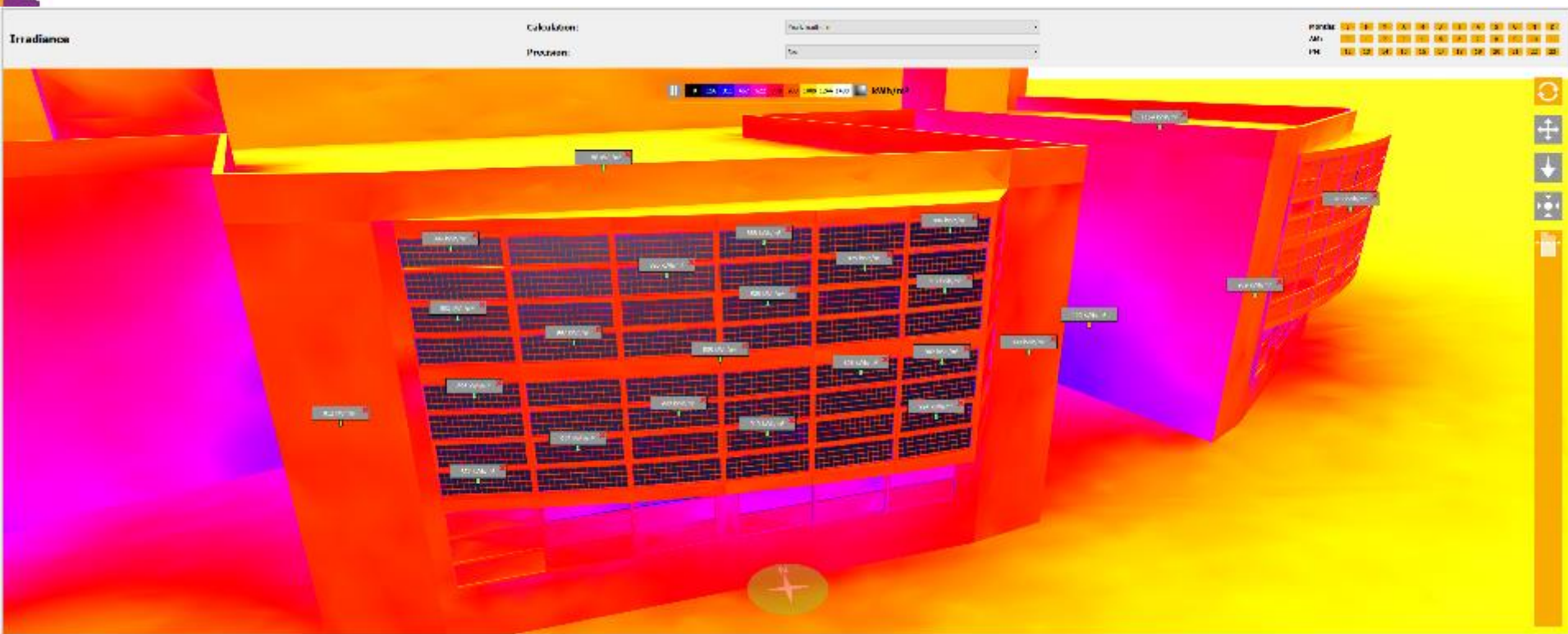
BIPV modeling

To SUMMARIZE...

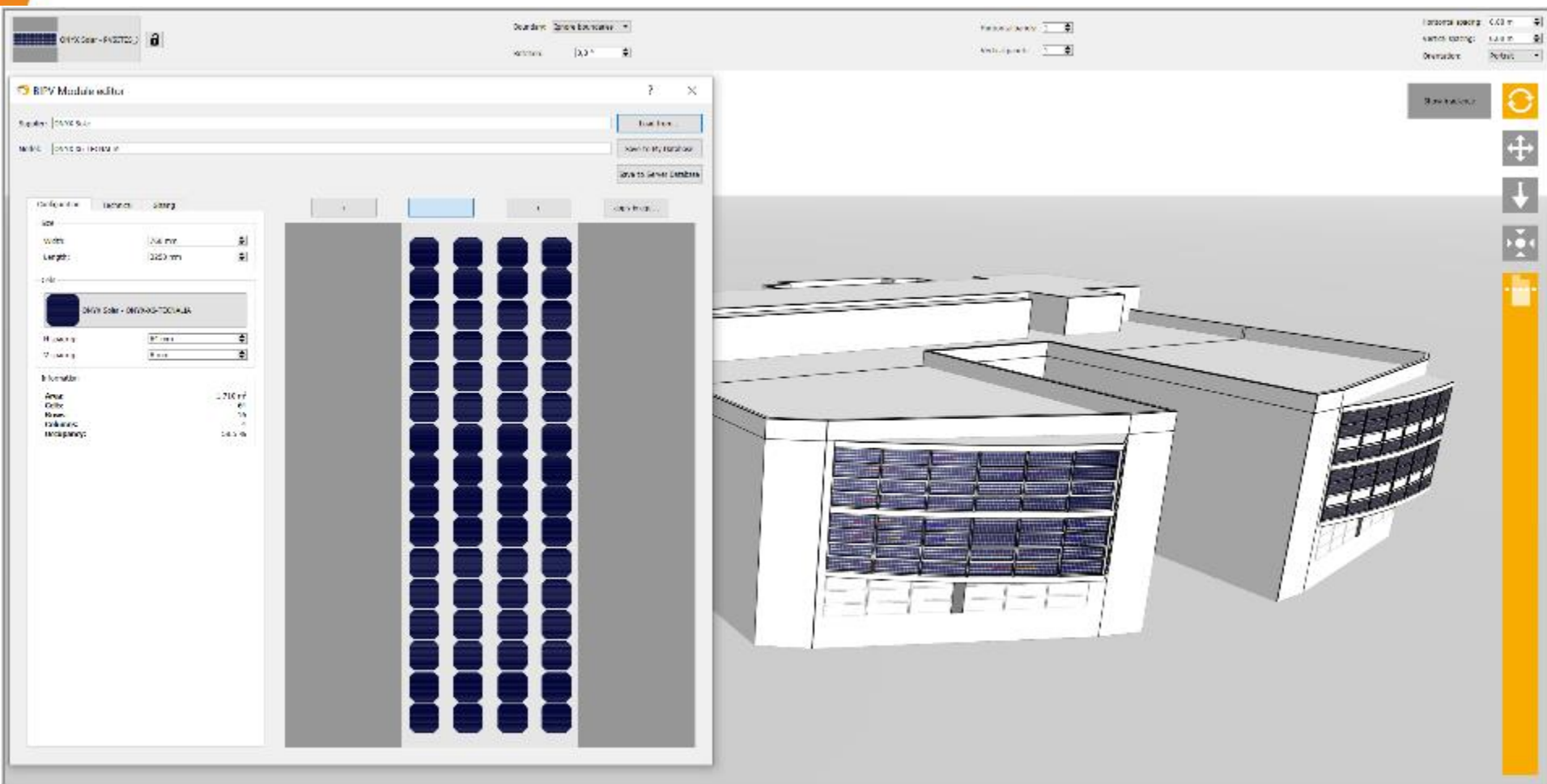
Inputs: 3D model importation / Geolocation / / Weather data



Irradiance – solar potential mapping



BIPV layout: set-up of the virtual products



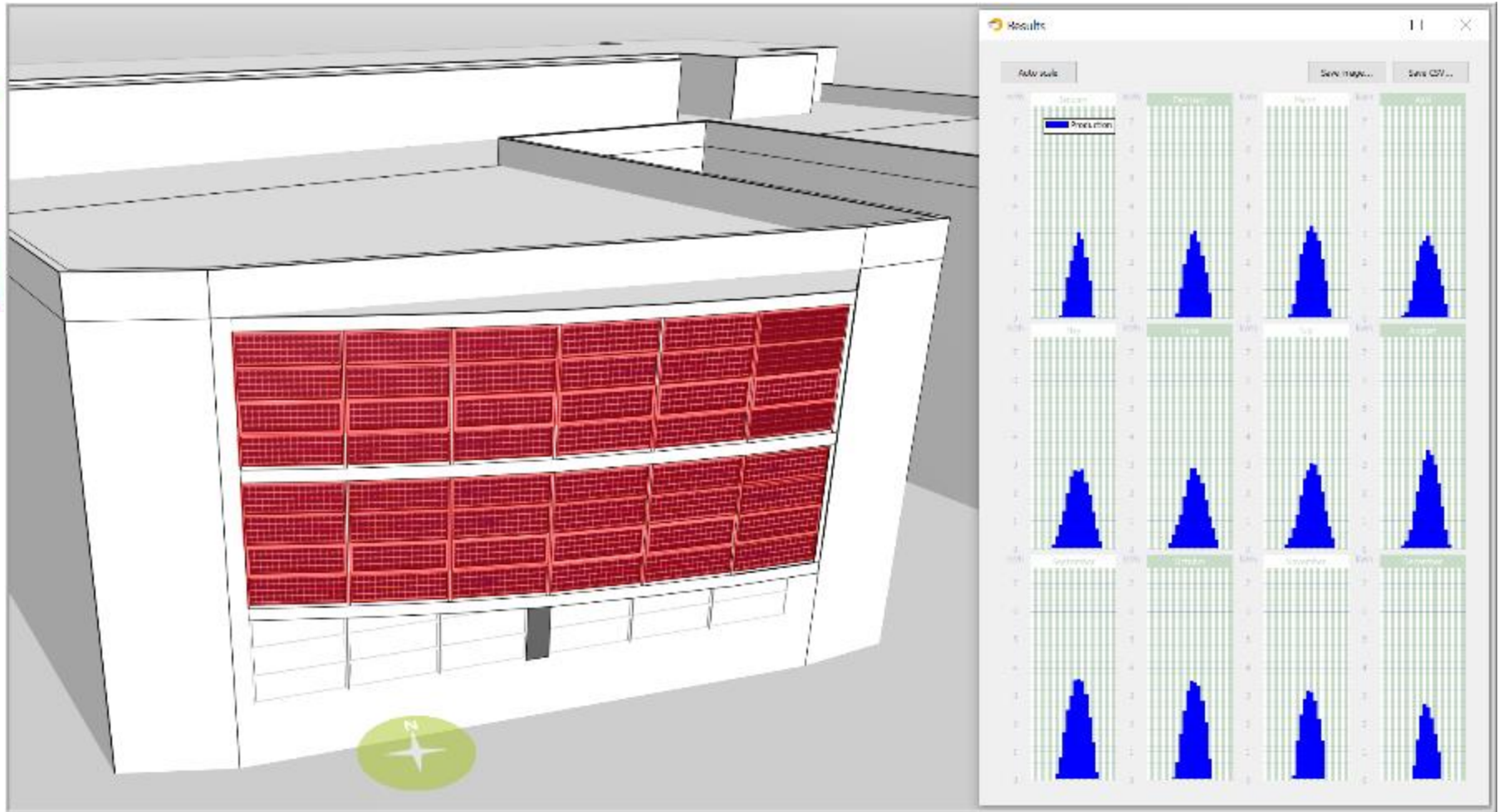
BIPV Layout



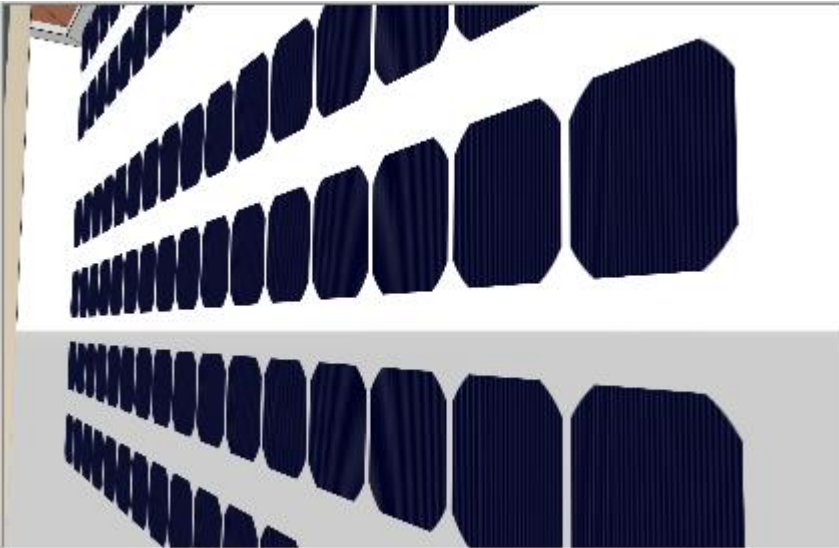
BIPV layout: build your virtual installation in 3D and get instant results (production, yield, losses)



Results: 3D display, csv exportation. Get DC production, losses, at element level, 1H to 1Y timestep - What if Analysis



X6-ONYX BIM PVSITES objects



ONYX X6 TECNALIA

Equipement spécifique (1)

Contraintes

Décalage

Plan de construction

Matériau et finitions

glass_mat1

glass_mat2

Electricité

Module peak power (Wp)	192.000000
Module power coef (1/K°C)	-0.300000
Module Voc (V)	41.500000
Module Vmpo (V)	34.000000
Module Isc (A)	5.700000
Cell peak power (Wp)	3.000000
Cell power coef (1/K°C)	0.300000
Cell Voc (V)	2.600000
Cell Vmpo (V)	2.180000
Cell Isc (A)	1.420000
NOCT (°C)	45.000000

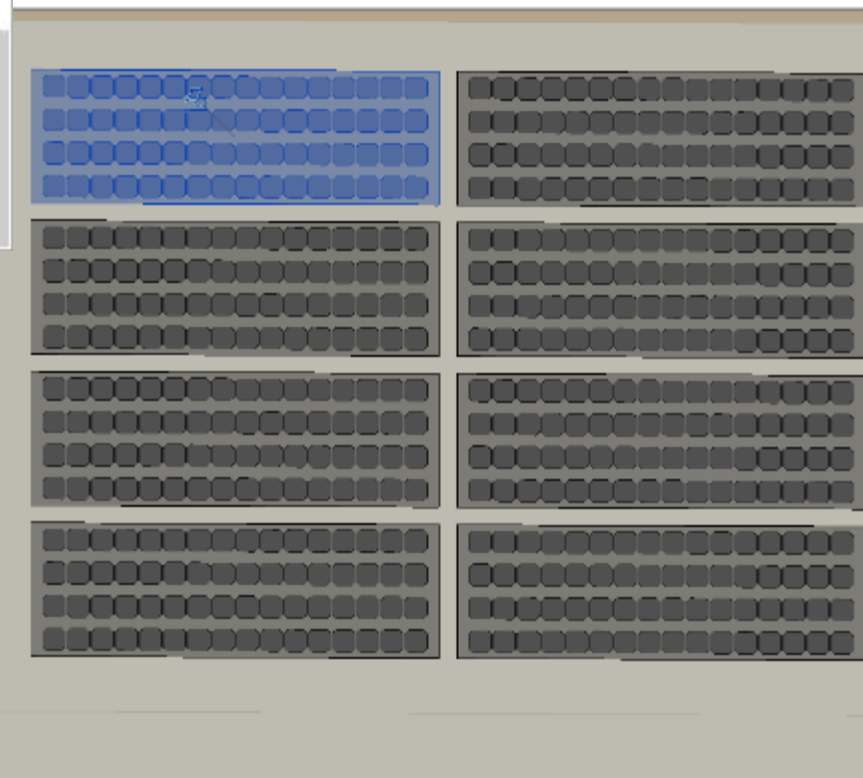
Electricité - Charges

Panneau

Nombre de circuit

Cibles

Cell clearance	2.00
Cell lengthX	12.50
Cell lengthY	12.50
Cell thickness	0.18
Frame height	1.00
Frame thicknessX	0.00
Frame thicknessY	0.00
LoamX	76.00
LoamY	220.00





**Visit our website and
subscribe to our news**



PVsites

www.pvsites.eu