

# SEMINARIO BIM

## Escenario local e internacional

COORGANIZAN:



APOYAN:



AUSPICIAN:



# Seminario BIM: Escenario Local e Internacional

## *Tecnología BIM para la Gestión de la Información*

ORGANIZAN:



PATROCINAN:

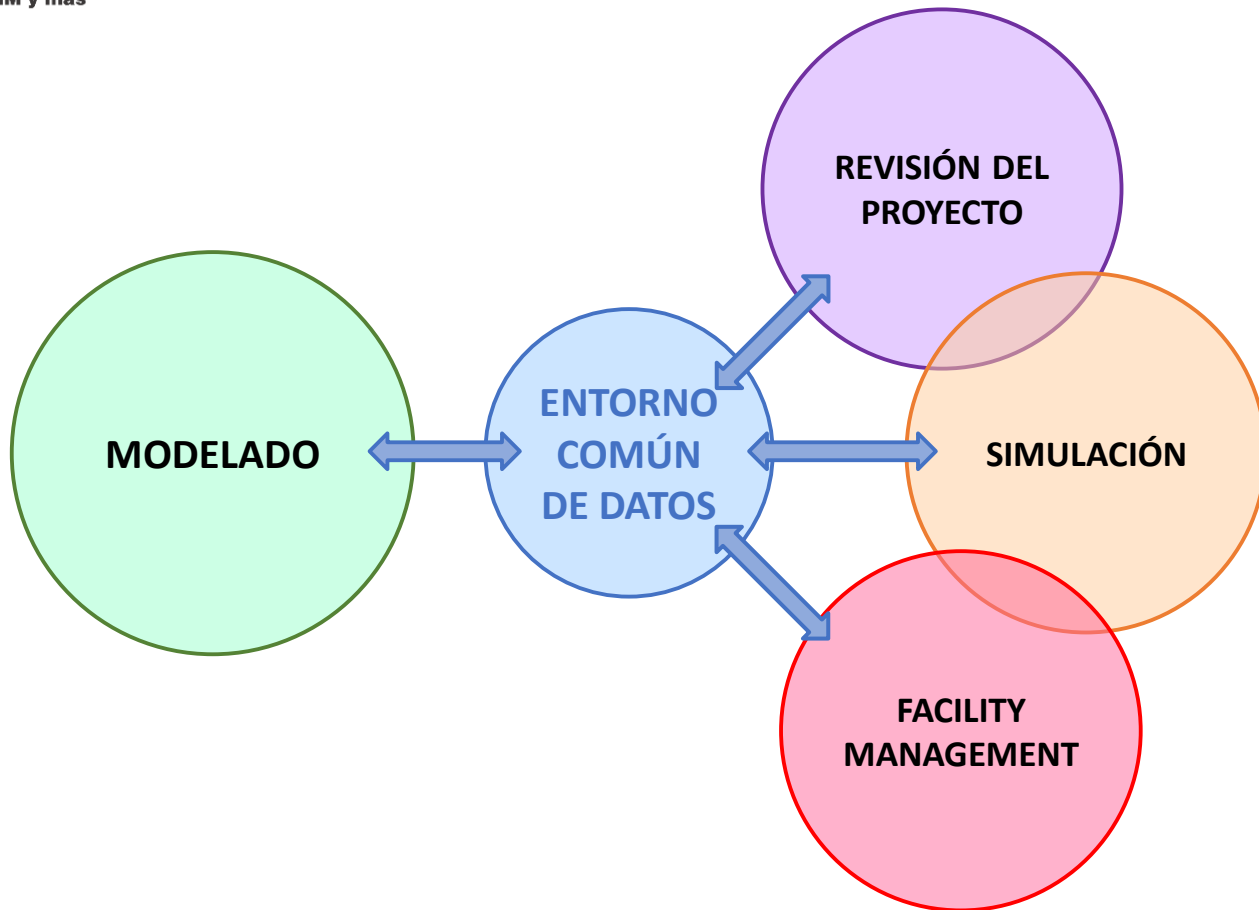


AUSPICIAN:



- **Introducción**
- **Software para Entornos Comunes de Datos**
- **Software para Revisión del Proyecto**
- **Software para Simulación**
- **Software para Facility Management**
- **Servicios en la nube**
- **Hardware para BIM**

## Distribución de las soluciones de software



# *Software para Entornos Comunes de Datos*

ORGANIZAN:



PATROCINAN:

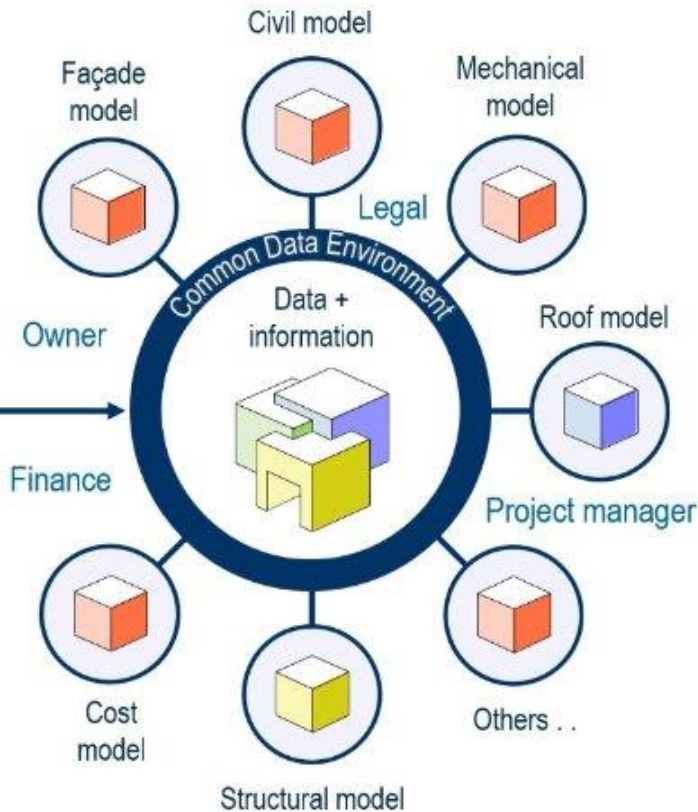
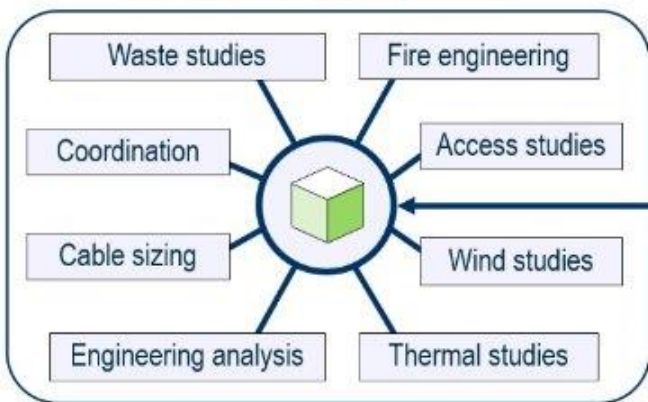


AUSPICIAN:



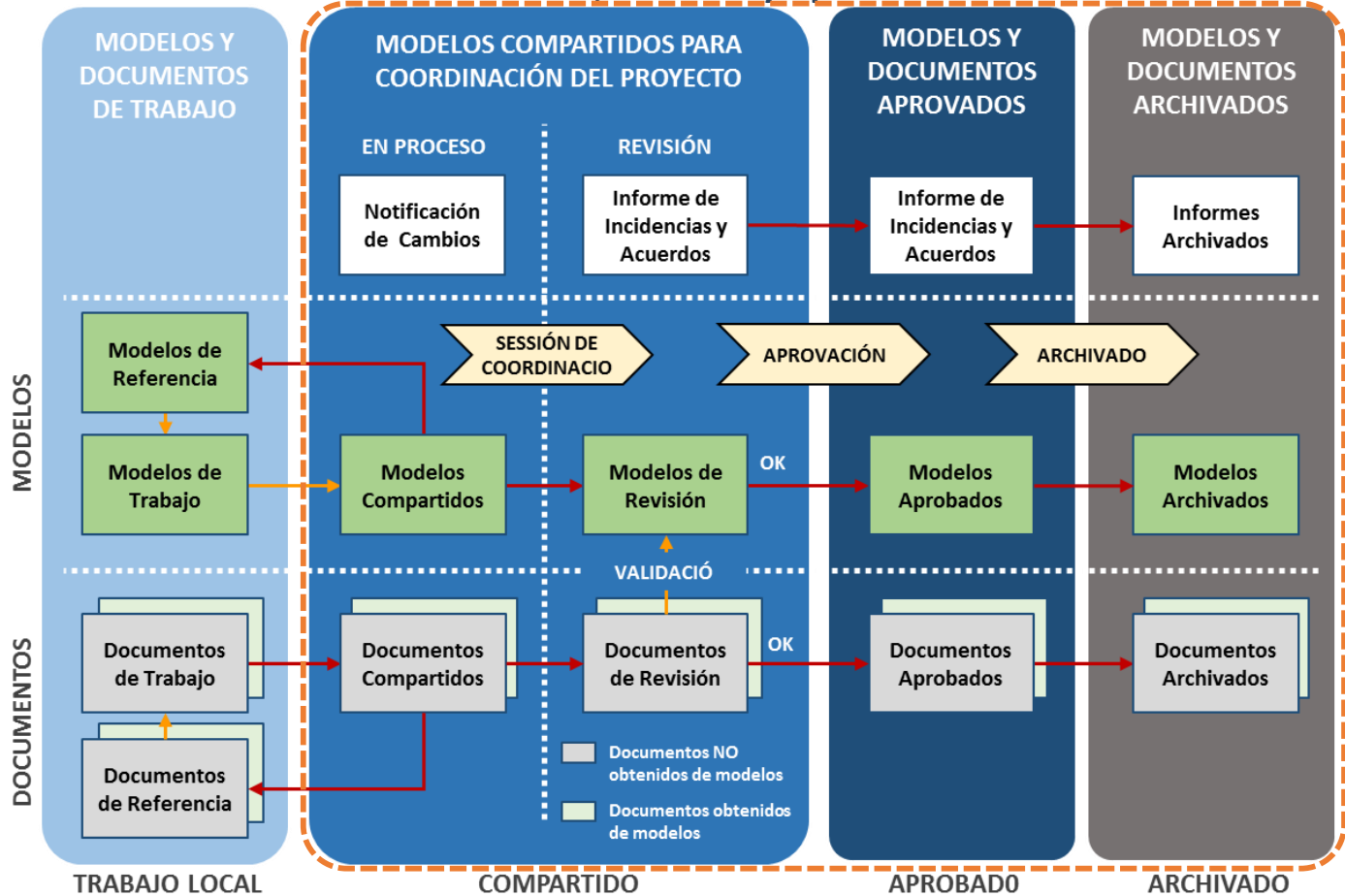
# Un Entorno Común de Datos es un sistema que centraliza la información y las comunicaciones

Activities of the modelling process



**Model = graphics + data**

## Los ECD se emplean en los procesos de coordinación, revisión y aprobación



## Prestaciones de un ECD

- **Gestión de usuarios y de permisos**
- **Gestión de modelos**
- **Gestión de versiones**
- **Visor de modelos federados**
- **Gestión de Incidencias**

Mínimas

- **Acceso externo a vistas de los modelos**
- **Control de tareas**
- **Gestión de documentos**
- **Extracción de datos**
- **Detección de Interferencias**

Opcionales



# Software para Entorno Común de Datos



AUTODESK® 360



BiMserver

Open source Building Information Model server

**BIM6D**

 **BIMcollab®**

**BiMaaS**




**aconex**



 **projects**

**bim**™  
build faster.



 Dashboard


 Models

 Bookmarks

 Issues

 Milestones

 Labels

 Documents

 Libraries

 Members

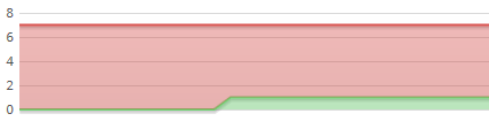
 Notifications

 Settings

 Help

Dashboard

 Issues +



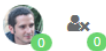
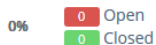
6 open issues

0 issues assigned to me

BCF 1.0



BCF 2.0



Recently updated issues

What the hell is it?



● Open ● Error



*Not assigned*



Updated 3 months ago.



#8



 Models +

 **ARC #1**  
Created 7 months ago by  Eloi Coloma Picó 2D 3D

 **MEC #1**  
Created 7 months ago by  Eloi Coloma Picó 2D 3D

 **MEP #1**  
Created 7 months ago by  Eloi Coloma Picó 2D 3D

 **SIT #1**  
Created 7 months ago by  Eloi Coloma Picó 2D 3D

 **STR #1**  
Created 7 months ago by  Eloi Coloma Picó 2D 3D

 Members +



Welcome, **Eloi Coloma (Eloi Coloma - easyBIM)** (using Viewpoint For Projects™) | Support | Suggestion Box

Previous Login: 28 December 2016 18:39  
 > Viewpoint For Projects Spain > 900\_Demo > Tesla > 4BIM > 01. Single Design Models (SDM)

**NAVIGATION**

- My Reports
- Personal Container
- Viewpoint For Projects Spain
  - 900\_Demo
    - Tesla
      - Calendar
      - 4BIM
        - 00. Protocolos BIM
        - 01. Single Design Models (SDM)
          - 02. Master Design Model**
            - Clinic Federado
            - Duplex Federado
            - Tareas
            - Tesla Federado
            - 03. Planificación del trabajo - Interca
            - Debates
            - DESERT GARDEN Project
            - Gestión de Planos
            - Gestión Documentos
            - Licitación
            - Tareas
            - Distribution Transmittals
            - Administration
  - 901\_UPC
    - Personal Settings
    - Change Enterprise
    - Refresh Tree

## 02. Master Design Model

Complete Stage

1

Stage 1 of 1 (1 in total)

### Proyecto de ejecución (Technical design)

Due by 21 May 2015 (one year ago)

Latest Models | Saved Views | Collaboration | COBie | Information Planner | Project Guidance

Federate Selected (2) | COBie Federate Selected (2)
Refresh All

▼ Clinic Federado Rev. "A", Status: "Draft"

Description			
Revision Notes			
Last Modified	22-May-2015 16:32 by <b>Duncan Mactear</b>	Created On	22-May-2015 16:26 by <b>Duncan Mactear</b>

☐	Actions	Name (& Description)	Revision	Status	Created By
<input checked="" type="checkbox"/>	<div style="font-size: x-small;"> <span>View Model</span>  <span>Edit COBie</span> </div>	<a href="#">Clinic_A</a> ! <div style="float: right; font-size: x-small;"> <span>Refresh</span>   <span>metres</span>   <span>IFC(X)</span> </div>	A	Draft	<b>Duncan Mactear</b> (Viewpoint UK) 22-May-2015 14:21
<input checked="" type="checkbox"/>	<div style="font-size: x-small;"> <span>View Model</span>  <span>Edit COBie</span> </div>	<a href="#">Clinic_MEP</a> ! <div style="float: right; font-size: x-small;"> <span>Refresh</span>   <span>Analysing</span> </div>	A	Draft	<b>Duncan Mactear</b> (Viewpoint UK) 22-May-2015 14:30
<input type="checkbox"/>	<div style="font-size: x-small;"> <span>View Model</span>  <span>Edit COBie</span> </div>	<a href="#">Clinic_S</a> ! <div style="float: right; font-size: x-small;"> <span>Refresh</span> </div>	A	Draft	<b>Duncan Mactear</b> (Viewpoint UK)

# *Software para Revisión del Proyecto*

ORGANIZAN:



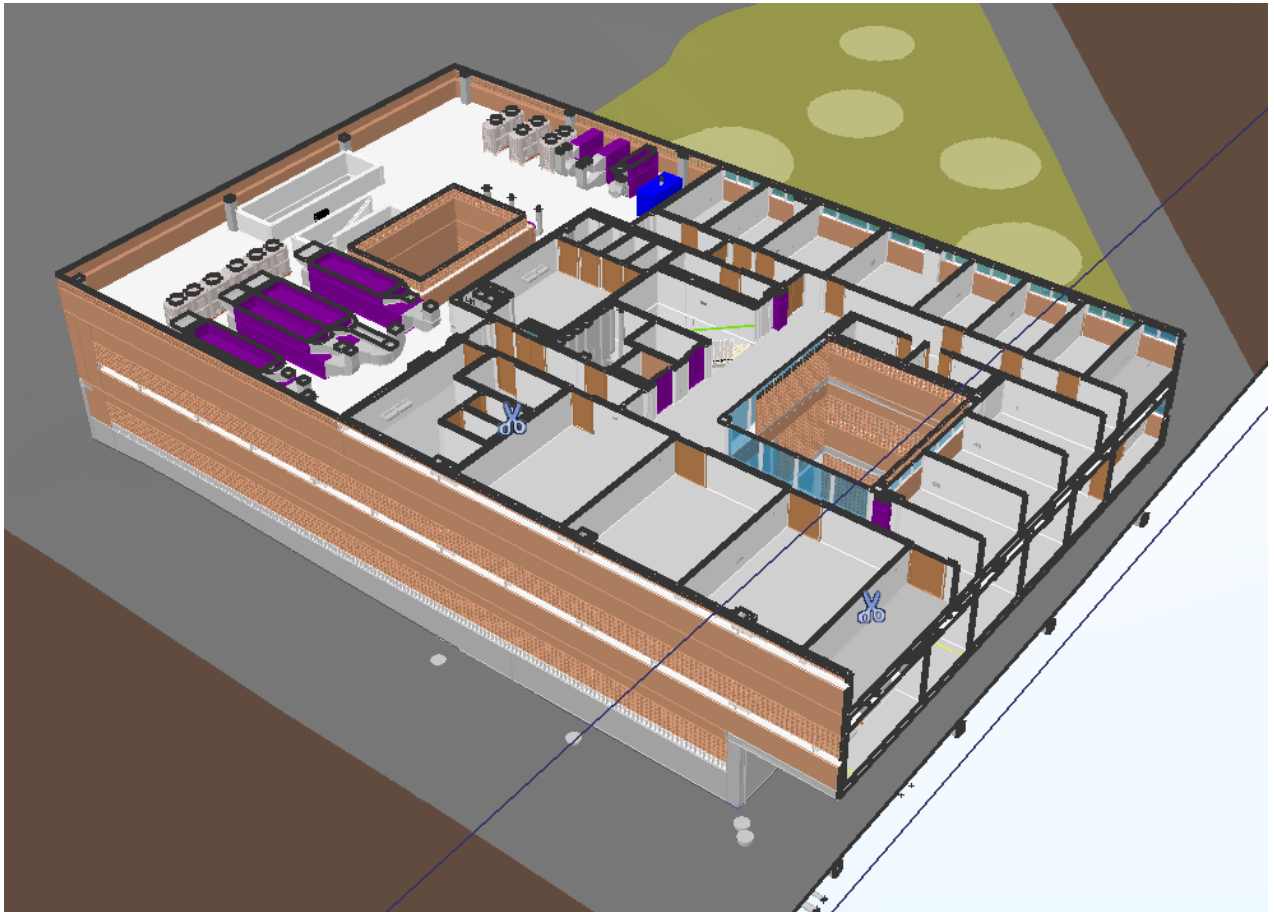
PATROCINAN:



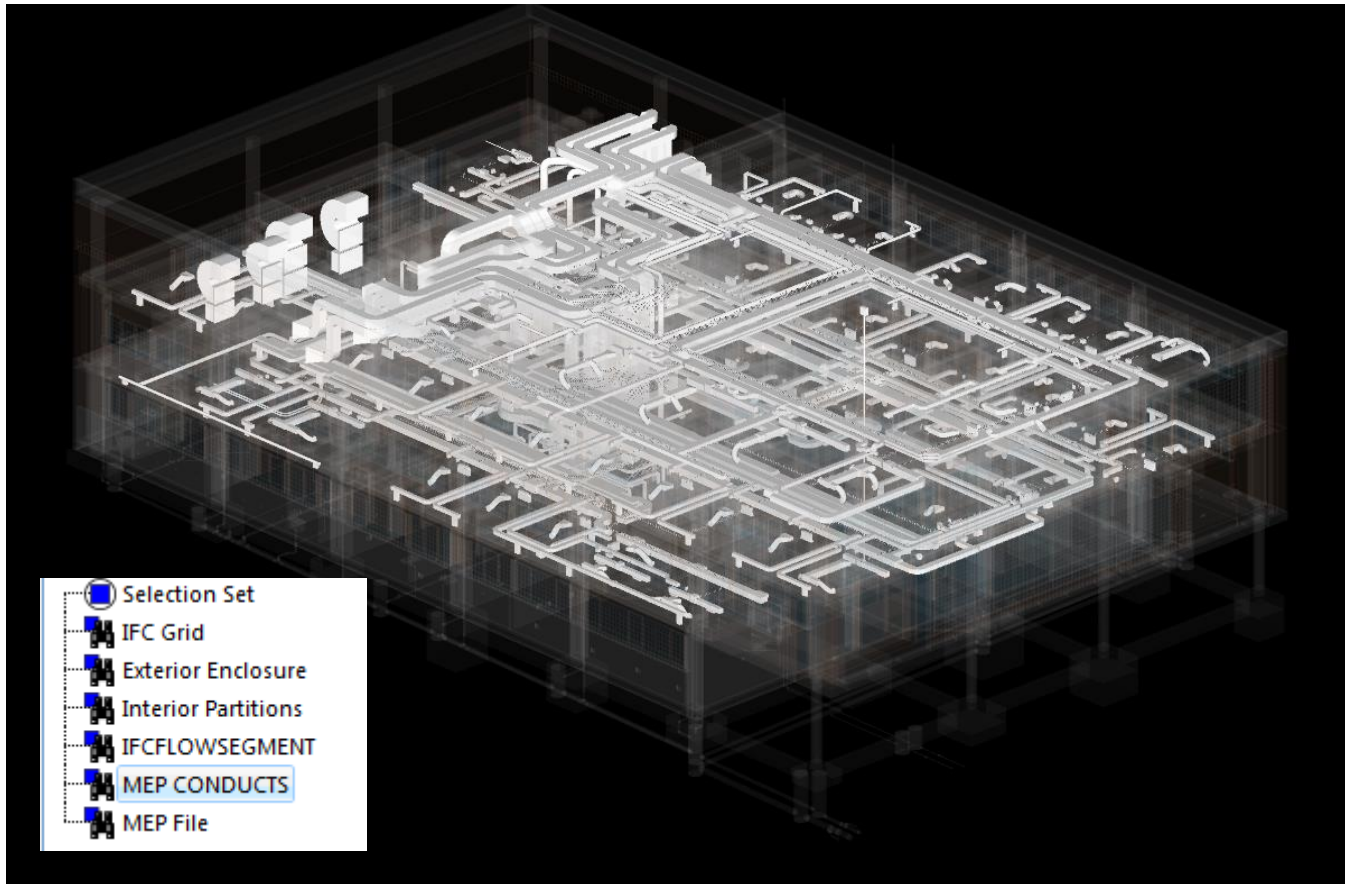
AUSPICIAN:



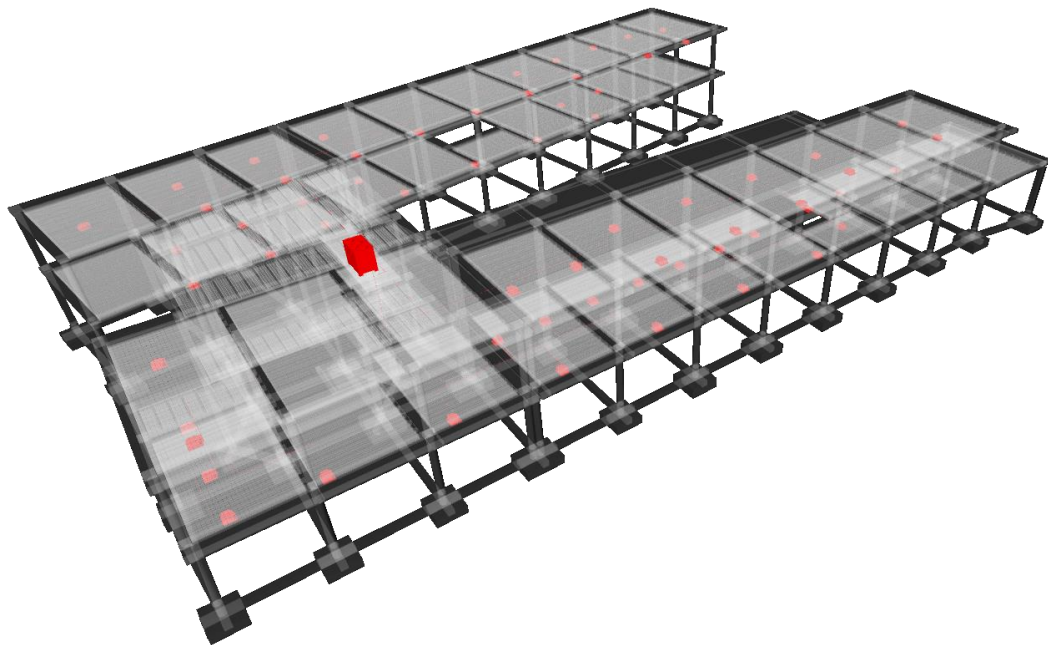
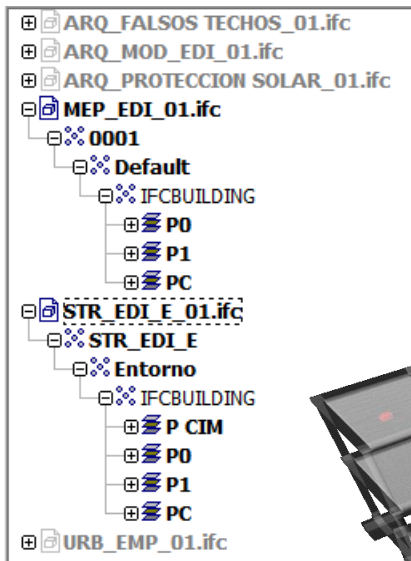
# La visualización de modelos es el primer mecanismo para el control del proyecto



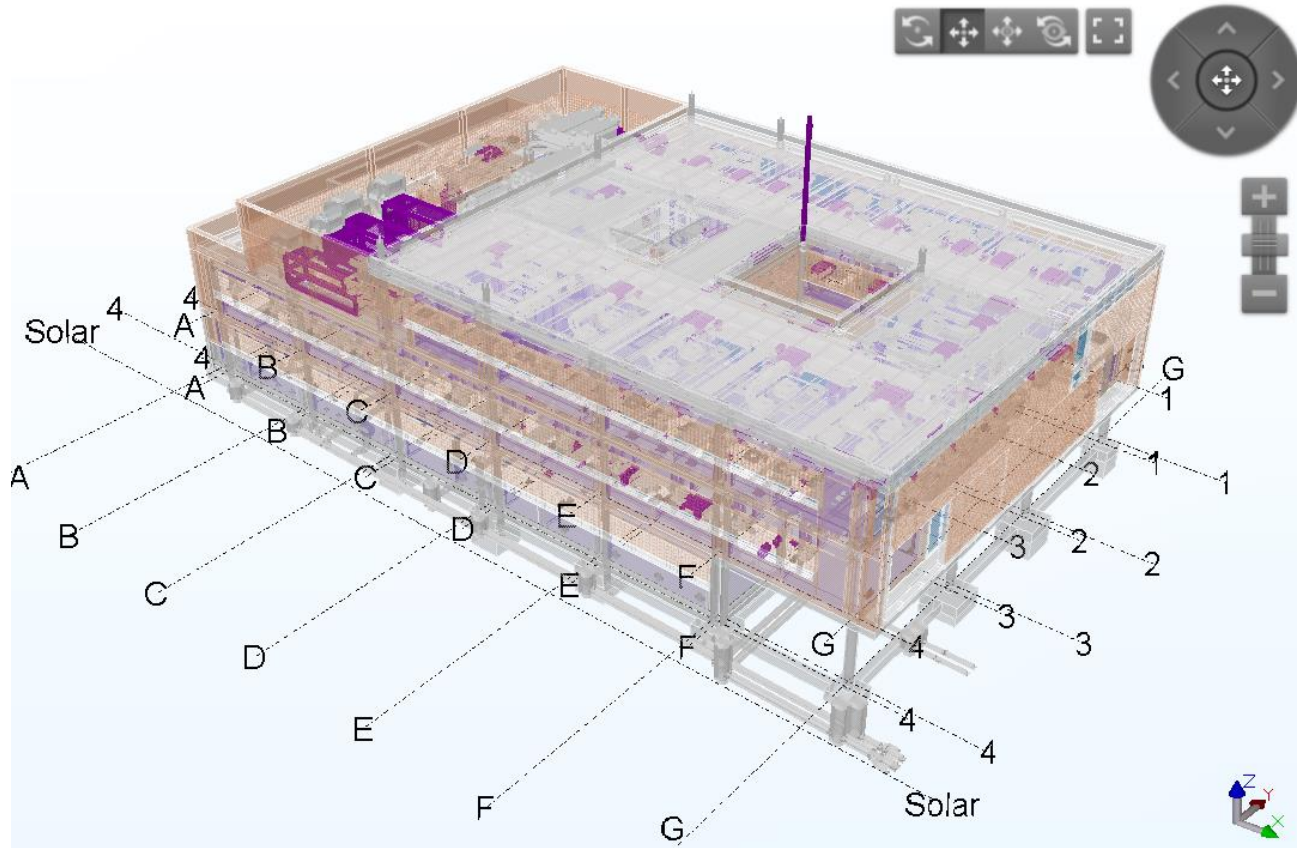
Para controlar el proyecto es esencial que la estructura de los modelos tenga suficiente calidad...



## ... y que compartan una misma estructura de datos



# Por ello el formato IFC es idóneo para la revisión del proyecto





# Software para Revisión



The screenshot displays the Tekla BIMsight application interface. The main window shows a 3D perspective view of a building's structural model, including a grid of columns and beams. A specific wall element is highlighted in a bright pink color. The interface includes a top menu bar with options like 'View' and 'Markup', and a toolbar with various navigation and editing tools. On the left, there is a 'Models' panel listing imported files. On the right, a 'Properties' panel is open for the selected 'WallStandardCase' object, showing its metadata and classification details.

**Properties Panel: WallStandardCase**

- Notes (0)
- Documents (0)
- Conflicts (0)

Color:

ReferenceObject

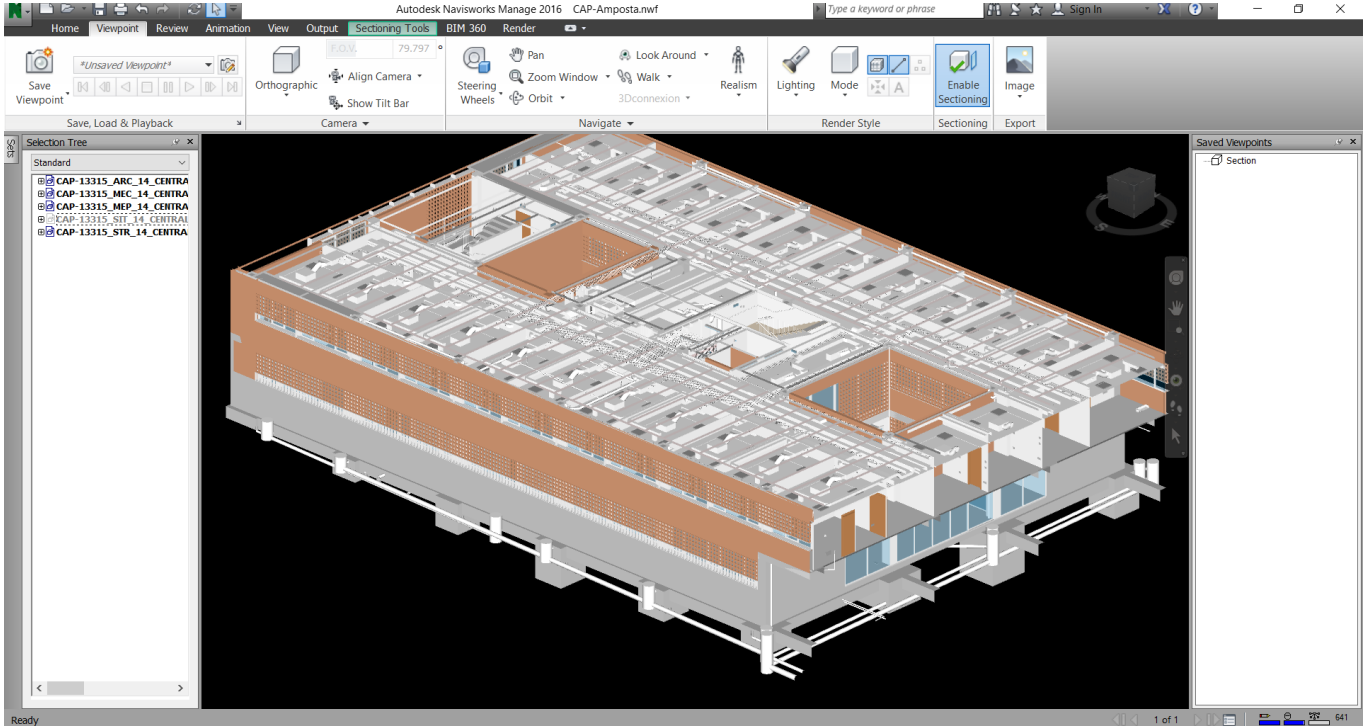
- GUID: 2gCjdvgD34w8MIRib5EW
- File Format: ifc
- Common Type: WallStandardCase
- Geometric Classification: Solid
- Volume: 12.3 m3

IfcRectangleProfile

- Profile: Basic Wall::Ma6 / Morter / Aill. / Aill. + F
- Dimension X: 2124 mm
- Dimension Y: 280 mm

Ifc2X3Product

- Product Name: Basic Wall::Ma6 / Morter / Aill. / Aill. + F
- Product Description:
- Product Object Type: Basic Wall::Ma6 / Morter / Aill. / Aill. + F
- Owning User: @PMMT
- Creation Date: 16/02/07 13:34:54
- Change Action: NoChange
- State: Undefined



The screenshot displays the Solibri Model Checker software interface. The main view shows a 3D BIM model of a building interior, with various components highlighted in red, yellow, and blue. The interface includes a 'Checking' panel on the left, a 'Results' panel, and an 'Info' panel at the bottom left.

**Checking Panel:**

- Model Structure
  - Component and Construction Types
  - Space Checking
  - Space Group Analysis
- INTERACTION CHECKING
  - Interactions - Same Kind of Components
    - Wall - Wall Interactions
    - Slab - Slab Interactions
    - Roof - Roof Interactions
    - Beam - Beam Interactions
  - Interactions - Different Kind of Components
    - Door - Door Interactions
    - Window - Window Interactions
    - Stair - Stair Interactions
    - Ramp - Ramp Interactions
    - Column - Column Interactions
    - Beam - Beam Interactions
    - Wall - Wall Interactions
    - Roof - Roof Interactions
    - Slab - Slab Interactions
  - Interactions of Furniture and Other Objects
  - ADG and ADA Accessibility Guidelines July 23, 2004
  - Quantity Take off
  - Interactions Between Elements
    - Building Services and Architecture Components
      - Building Services and Doors and Windows
      - Building Services and Beams and Columns
      - Building Services and Other Construction Components
      - Building Services and Furniture and Other Objects

**Results Panel:**

Results

1. Building Components - 1/1

1.1. PAREDA 01 (2) (1/1)

1.2. PAREDA 02 (2) (1/1)

**Info Panel:**

Info

1. - 1. Space 0.144 - PAREDA\_2020RS\_002

Identificación	Localización	Cantidad	Relaciones	Space Boundary
Property		Value		
Model		24-11-3 Series		
Name		PAREDA_2020RS_002		
Number		993.000		
Type		Standard		
Level		ARTEFACTO_2020RS_002		
Space Group Type				
Coordinate		Element		
GUID		2-aa3b3e0c0e0b3a000000000000000000		
SAVID				

# Software para Simulación

ORGANIZAN:

PATROCINAN:

AUSPICIAN:

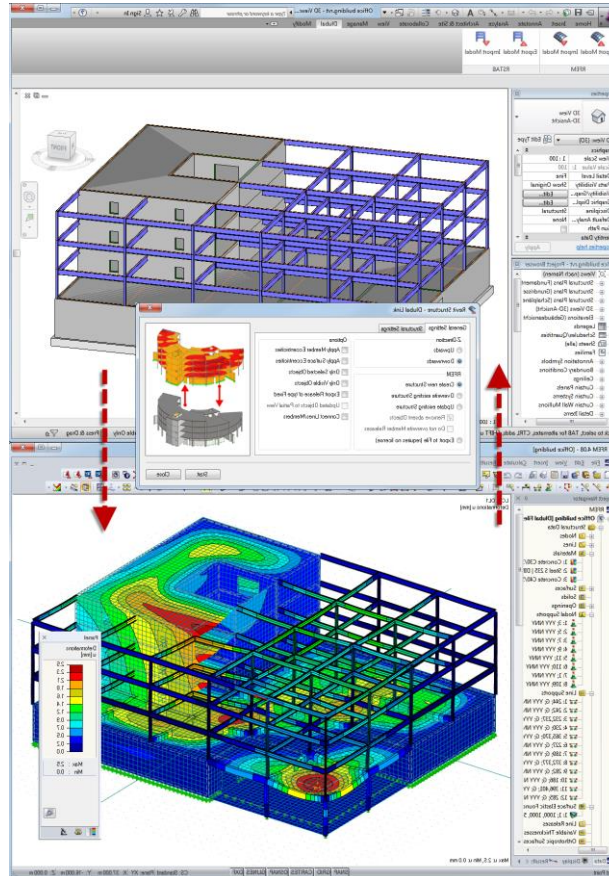




# El software de simulación obtiene datos de los modelos a los que añade los suyos propios

Tipología  
Geometría  
Meta-Datos  
Materiales  
Modelo analítico

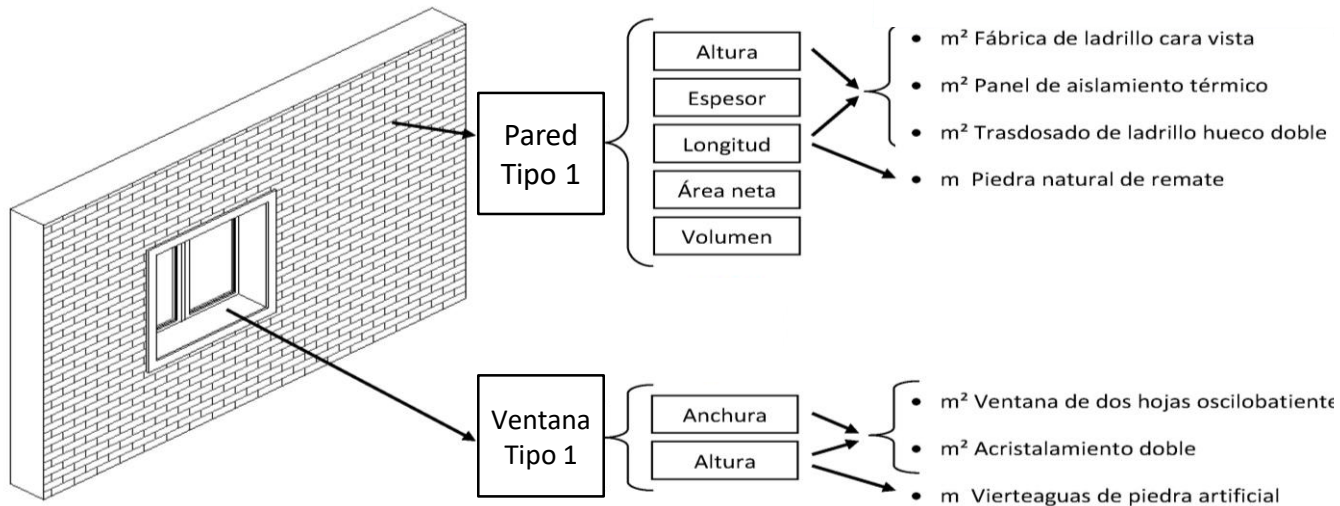
Tipología  
Geometría  
Materiales  
Modelo analítico



Tipología  
Geometría  
Modelo analítico

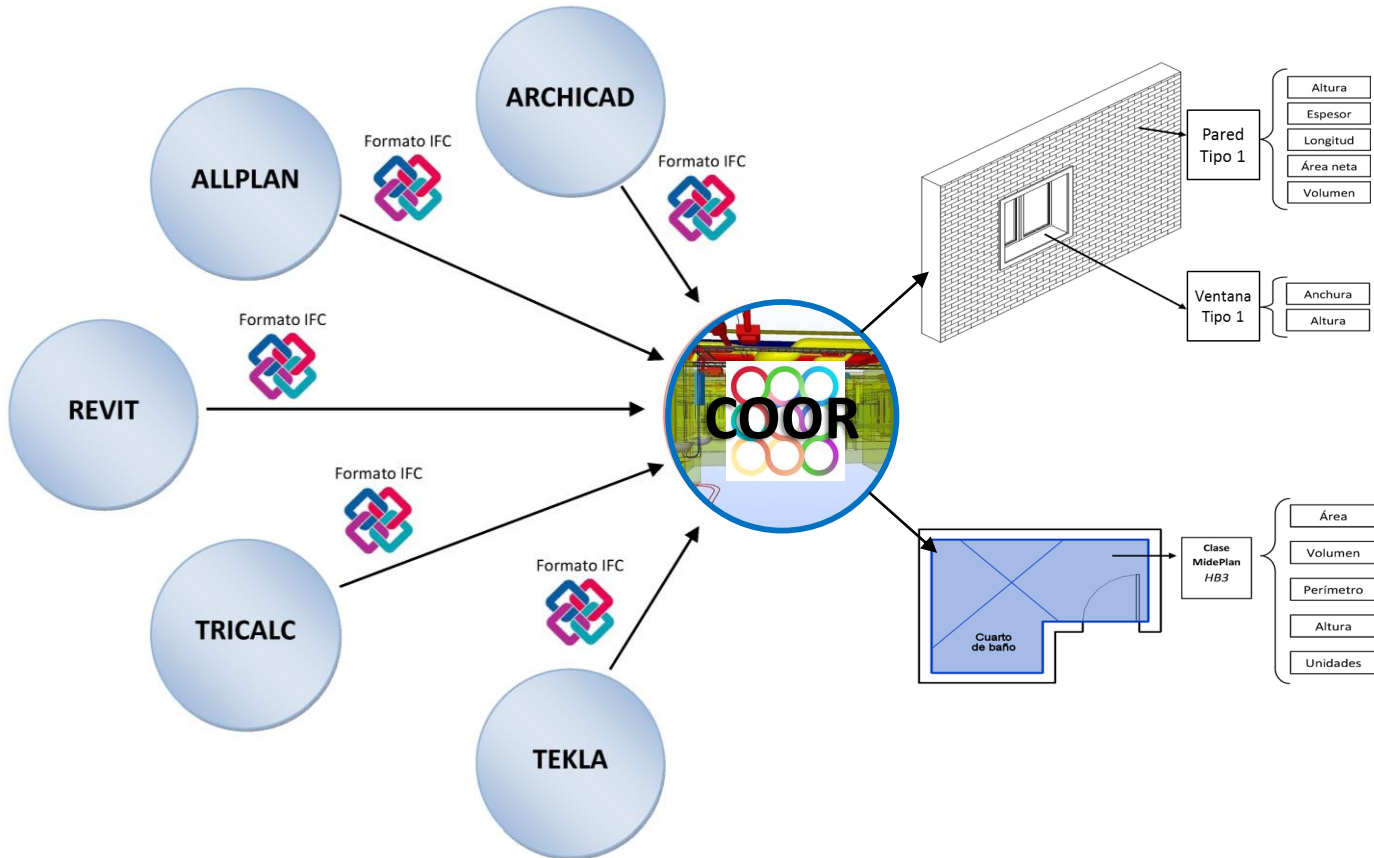
Tipología  
Geometría  
Modelo analítico  
Hipótesis de Carga

# Ejemplo de simulación en el control de costes



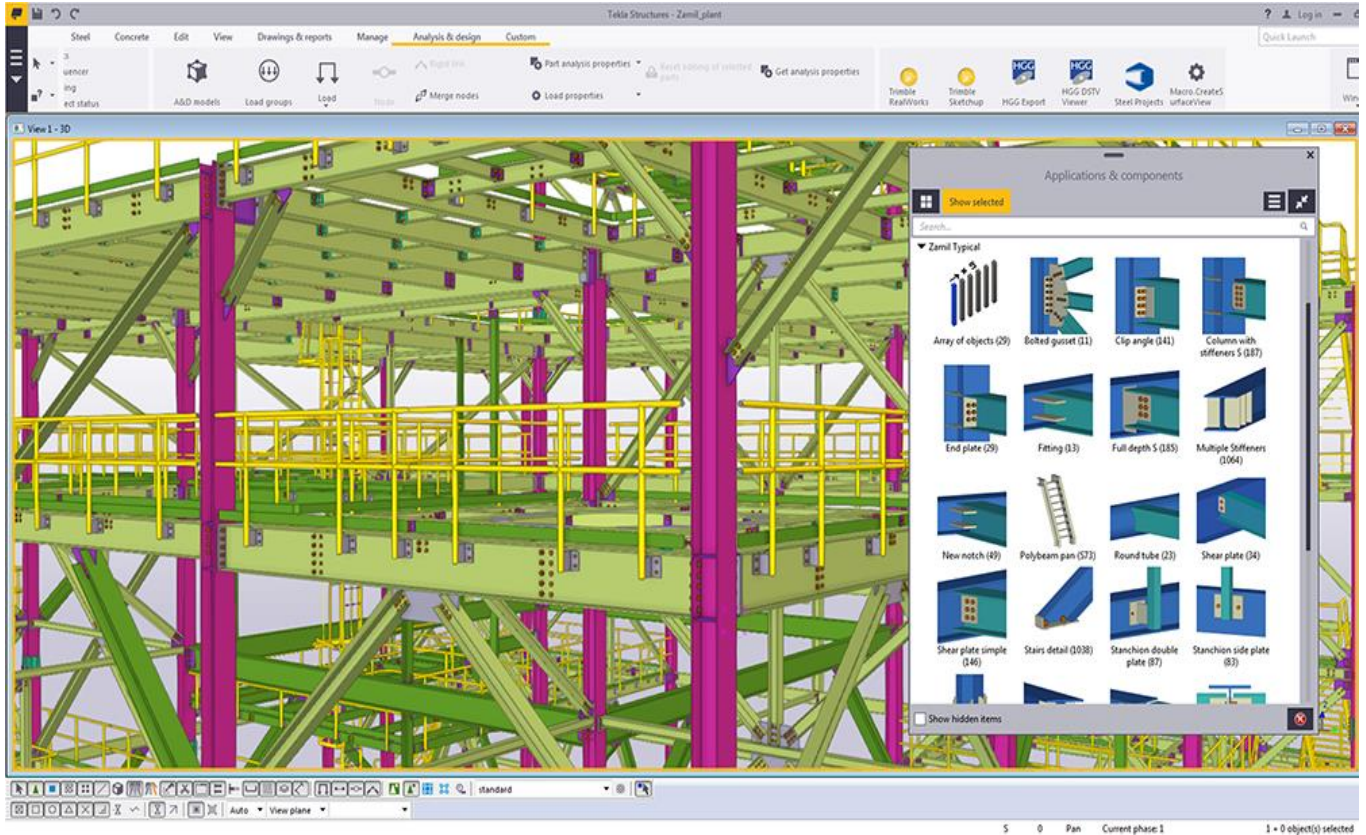


# Ejemplo de simulación en el control de costes



## Software de simulación





The screenshot displays the Autodesk Robot Structural Analysis Professional 2013 interface. The main window shows a 3D model of a steel structure with a color-coded stress distribution. The interface includes a menu bar (File, Edit, View, Geometry, Loads, Analysis, Results, Design, Tools, Add-Ins, Window, Help), a toolbar, and several panels:

- Display Panel (Left):** Shows the 'Standard' template and a list of objects to display, including Favorites, Model, Nodes, Elements / FE, Panels / Mark with colors, Loads, View, Structure, Bar description, Symbols, Section - shape, Sections - legend by colors, Member types - legends by colors, Cables, Advanced properties, and Numbers of calculation elements. It also includes a 'Symbol size' field set to 30 and 'Display attributes only for selected objects' checkbox.
- Maps Panel (Right):** Shows the 'Layer: Middle' and 'Automatic direction' options. It includes a table of stress and displacement results with checkboxes for each:

Stresses - s	ux	uy	w	z
Membrane forces - N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moments - M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shear stresses - t	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shear forces - Q	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Displacements - u,w	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rotations - R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil reactions - K	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Smoothing Panel (Right):** Includes options for 'Isolines' (With normalization, With FE mesh, With description) and 'Maps' (With description, Open new window with scale displayed).
- Legend (Bottom Right):** A color scale for 'WNorm., (cm)' ranging from 0.4 (yellow) to -1.3 (dark blue). Below it, a legend for 'Cases: 1 (Poids propre BA)' identifies member types: IPE 200 (blue), IPE 220 (red), and RONDE\_70 (orange).
- Structure elements Table (Bottom Left):** A table with columns for Name, Value, and Unit.
- Status Bar (Bottom):** Shows 'Results (FEM): available', '29239' elements, '1499' nodes, 'RC shell' material, and coordinates 'x=-8,16; y=-5,26; z=6,50'.

Mideplan - Sample.mpic

Medición Herramientas Ventana Medición IFC Ayuda

Clases de elementos Archivo

Clases de elementos Sample.mpic

ID	Descripción IFC	E	Clase IFC	Clase	GUID-IFC	Unidades	Longitud(mm)	Volumen(mm³)	Área(mm²)
4	BATH 6	H	HB2	HB2	3xQGZ...	1			4.922.745,2
5	145199 Basic...	MT1	MT1	3xZY6...		1	1.179,20	184.199.116,80	1.534.992,6
16	145032 Basic...	MC1	MC1	3mbvS...		1	304,80	346.368.000,00	1.574.400,0
7	145015 Basic...	MC1	MC1	3mbvS...		1	1.181,10	634.326.000,00	2.883.300,0
8	144998 Basic...	MC1	MC1	3mbvS...		1	2.743,20	1.817.112.000,00	8.259.600,0
9	144706 Basic...	MT1	MT1	2bxjKL...		1	1.016,00	295.012.800,00	2.458.440,0
10	144857 Bifold...	MP2	MP2	2bxjKL...		1			
11	144534 Bifold...	MP2	MP2	2bxjKL...		1			
12	140204 Basic...	MC1	MC1	2bxjKL...		1	1.524,00	950.688.000,00	4.753.440,0
13	140192 Bifold...	MP2	MP2	2bxjKL...		1			
14	140191 Basic...	MT1	MT1	2bxjKL...		1	2.667,00	451.094.400,00	3.759.120,0
15	140190 Basic...	MT1	MT1	2bxjKL...		1	711,20	256.032.000,00	2.133.600,0
16	140140 Bifold...	MP2	MP2	2bxjKL...		1			
17	140130 Basic...	MT1	MT1	2bxjKL...		1	2.667,00	447.522.658,16	3.729.355,4
18	140108 Basic...	MT1	MT1	2bxjKL...		1	711,20	256.032.000,00	2.133.600,0
19	135527 Basic...	MT1	MT1	111Xgy...		1	1.179,20	381.312.000,00	3.177.600,0
20	135477 Singl...	MP1	MP1	111Xgy...		1			
21	128006 Basic...	MT1	MT1	0yTvc...		1	1.016,00	333.576.000,00	2.779.800,0
22	127941 Basic...	MT1	MT1	0yTvc...		1	4.953,00	809.481.600,00	6.745.680,0
23	127967 Singl...	MP1	MP1	0yTvc...		1			
24	127963 Basic...	MT1	MT1	0yTvc...		1	2.133,60	505.296.000,00	4.210.800,0
25	127962 Singl...	MP1	MP1	0yTvc...		1			
26	127961 Singl...	MP1	MP1	0yTvc...		1			
27	127960 Basic...	MT1	MT1	0yTvc...		1	7.620,00	2.245.242.658,16	18.710.355,4
28	127859 Basic...	MT1	MT1	0yTvc...		1	4.267,20	1.468.877.440,00	12.157.312,0

Código	Elemento	Descripción	Color
MT1	Muro	Tablón de ladrillo hueco doble recibido con mortero de cemento	Orange

Código	Período	Descripción	Número	Largo	Ancho	Alto	Total	Código	Unitario	Importe
0701		Tablón de ladrillo hueco doble		4,27		3,00	12,80	E07LD010	23,48	300,58
2	Total									300,58

TCQ 5.1.650 - Tiempo Coste Calidad - [Presupuesto: 2015.118 - PROYECTE INSTALACIONES - CEM HORTA FASE II]

Código	Descripción	Importes
01	Presupuesto 2015.118	340.867,34
05	INSTALACIONES	0,00
04	INST Climatizaci3/Ventilaci3	0,00

Código	Descripción	Importes
01	Presupuesto 2015.118	
01 ?		
06	INSTALACIONES	
01	INST Fontanería	
02	INST Filtrado	
03	INST Termica escalfament piscines	
04	INST Climatizaci3/Ventilaci3	
05	INST Terra Radiant	
06	INST Iluminaci3	
07	INST Elèctricitat	
01	Quadres elèctrics	
02	Canalitzacions i conductors	
03	Mecanismes	
04	Xarxa de posta a terra	
08	INST Gestió Tècnica	
09	INS PCI	

Nº	Inf	Código	U.M.	Descripción
1		EEH9CH01	u	Deshumectadora Air Master BCP 440. Deshumectaci3-93.1kg/h, Caudal=22.000m3/h.
2		EEJ8CH02	u	UTA Airlen, serie FMA 100, 10.400 m3/h
3		EEJ8CH03	u	Recuperador de calor S4P CAD6/T/N 18 BP F7-F9 PRG-REG
4		EEQ9CH03	u	PURY-P700/SLM-A1 Unidad exterior. Bomba cal/VRV/ventil axial func recup calor
5		EEQ9CH04	u	PURY-P500/LMA-A1 Unidad exterior. Bomba cal/VRV/ventil axial func recup calor
6		EED9CH05	u	DMB-P1010V-HA Controlador BC principal, serie R2_YHM, City Multi, 16 sondes
7		EED9CH06	u	DMB-P1010V-g4 Controlador BC principal, serie big-2, City Multi, 10 sondes
8		EED9CH07	u	DMF-R1603-1-1-01 d'unió, 2 sondes
9		EEJ8CH08	u	PEFY-P129/MA-E. Cassette, conductes presi3, 12.900 Fig/h, 13.800 Kcal/h
10		EEJ8CH09	u	PLFY-P32VM/E. Cassette 4v, 3.150 Fig/h, 3.400 Kcal/h
11		EEJ8CH10	u	PEFY-P100/MA-E. Cassette, conductes presi3, 10.000 Fig/h, 10.800 Kcal/h
12		EEJ8CH11	u	PEFY-P140/MA-E. Cassette, conductes presi3, 14.000 Fig/h, 15.500 Kcal/h
13		EEK1CH12	u	PAP-31MA, Central Remotó Sencill, g. /16 uds
14		EE50Z34	m2	Conducte ac galvanizado 8mm,marc cartagol munt./suports
15		EE617542	m2	Aïllament conductes llana roca,36-40kg/m3,25mm,exterior
16		EE521100	m	Junt elàstic planxa acer+elàstic 60mm+planxa acer.col
17		EFQAC001	m2	ALUMINI PER CALORIFUGAR
18		EE44Z000	m	Tub flexible tèrmic, tub nt doble capa alumini+espiral acer
19		EE44Z000	m	Tub flexible tèrmic, tub nt doble capa alumini+espiral acer
20		EE44Z000	m	Tub flexible tèrmic, tub nt doble capa alumini+espiral acer
21		EEK1C029	u	Reseta inputs/retorn fises,alum 825x75mm
22		EEK1C024	u	Reseta inputs/retorn fises,alum 1225x75mm
23		EEK1C068	u	Reseta inputs/retorn fises,alum 2.100x75mm
24		EEK1C086	u	Reseta inputs/retorn fises,alum 2.925x75mm
25		EEK1C087	u	Reseta inputs/retorn fises,alum 5.600x75mm
26		EEK1C090	u	Reseta inputs/retorn fises,alum 2675x225/11
27		EEK1C037	U	Reseta d'intersecció acer galvanitzat 1950x1485
28		EEK2C011	U	TOBERA DUE-SLB/315xP1
29		EEK2C011	U	TOBERA DUE-SLB/315xP1

TCQ-BIM Viewer 1.0 - Y-11\_BIM/02\_Proyectos/1602\_Bergara/01.In.progress/04.Revisi3 de Model/01.JFC\_Files/ModeloMaster/Centro\_Miguel\_Altuna MEP\_23/CW2.jfc

ARCHIVO VISTA OBJETO MEDIDAS CAMBIOS

Restablecer el zoom Por defecto Superior Frontal Posterior Opciones Color del objeto

Proyecciones en el espacio Vista 2D Encuadrar Cámara

Restablecer X Y Z Desplazar niveles

Modelo

Desplazar niveles

Activo	Tipo	Nombre	Descripción
<input checked="" type="checkbox"/>	Nivel del edificio	(+184.98) PC_EST	
<input checked="" type="checkbox"/>	Nivel del edificio	(+185.05) PC	
<input checked="" type="checkbox"/>	Otros		
<input checked="" type="checkbox"/>	Elementos constructivos indeterminados (Proxies)		
<input checked="" type="checkbox"/>	Elemento constructivo s indeterminados (Proxies)	DBM_UTAcubierta:124x010	
<input checked="" type="checkbox"/>	Elemento constructivo s indeterminados (Proxies)	DBM_UTAcubierta:124x010	
<input checked="" type="checkbox"/>	Elemento constructivo s indeterminados (Proxies)	DBM_UTAcubierta:124x010	
<input checked="" type="checkbox"/>	Elemento constructivo s indeterminados (Proxies)	M_Fire Damper - constructiv Rectangular - Simple	

Nombre Sin propiedades Valor Unidad

Project Number Default Centro Miguel Altuna (+185.05) PC Elementos constructivos indeterminados DBM\_UTAcubierta:124x010\_CU02 0.06

Task Manager Cost Planner

New Task
 New Summary Task
 Insert Copied Tasks
 Promote Task
 Demote Task
 Delete Selected

Selected Only
 Unassign Selected
 Show Mapped

Timing
 Production Planning
 Quantities

Default Mode
 Navigate

07 - Schedule Planner

**1 Project**

- View Dashboard
- Define Settings
- Select Module
- Import from Excel
- Compare & Update

**2 Model Management**

- Model Register

**3 Task Management**

- Manage Tasks

**4 LBS Management**

- Define Location Systems
- Define Locations

**5 Schedule Management**

- Open Schedule

**6 4D Simulation**

- Define 4D Simulation
- Explore 4D

**7 Reports**

- Create Reports

My Dashboard Schedule Planner

Code	Description	Qty	UOM	Unit Cost	Net Total
000	VICO OFFICE PROJECT	15,000.0	SF	284.53	4,267,969.93
A	SUBSTRUCTURE	15,000.0	SF	20.30	304,544.93
0	Piles	196.0	EA	1,000.00	196,000.00
1	Pile Caps	68.1	CY	303.60	20,661.67
3	Rebar	10.2	T	5.00	51.04
4	Form	1,764.0	SF	5.00	8,820.00
5	Concrete	71.5	CY	165.00	11,790.63
2	Slab on Grade	10,805.5	SF	8.13	87,883.25
B	SHELL	15,000.0	SF	65.00	975,000.00
C	INTERIORS	15,000.0	SF	32.00	480,000.00
D	SERVICES	15,000.0	SF	100.00	1,500,000.00
Z	ALLOWANCES	15,000.0	SF	67.23	1,008,425.00

Code	Name	Qty	UOM	Hrs/UOM	UOM/Hr	Work
0020	Drill and cast piles					392.00
0	Piles	196.00	EA	2.00	0.50	392.00
0021	Form PCs					88.20
4	Form	1,764.00	SF	0.05	20.00	88.20
0022	Rebar PCs					122.50
3	Rebar	10,211	T	12.00	0.08	122.50
0023	Concrete PCs					
5	Concrete	71.46	CY			5

Zone: Sep, Oct, Nov, Dec

Project start: Sep 24

Project end: Dec 24

Legend: Target (solid line), Actual (dotted line), Forecast (dashed line)

© COLOMA+ARMENGOL

20:25 32





Autodesk Navisworks Manage 2017 16003\_CentroMiguelAlتنا\_Mediciones\_Master.rwd

Type a keyword or phrase

Home Viewpoint Review Animation View Output Item Tools BIM 360 Render

Append Refresh Reset All... Options Select Save Selection Select All Select Same Selection Tree Find Items Quick Find Hide Require Hide Unselected Unhide All Links Quick Properties Properties Clash TimeLiner Quantification Autodesk Animator Scripter Appearance Profiler Batch Utility Compare DataTools

Project Sets Select & Search Visibility Display Tools

Selection Tree

- Standard Tree
  - 16003\_CentroMiguelAlتنا\_Medicione
    - Centro\_Miguel\_Altuna\_ARQ\_CENTRU
    - Centro\_Miguel\_Altuna\_EST\_CENTRA
      - <No levels>
      - (+162.98) PT1\_EST
        - Floors
          - Floor
            - Aglomerado Asfáltico
            - Forjado Reticular 37 cm
              - Floor
              - Floor
              - Floor
              - Losavoladizo15cm
                - Stairs
                - Structural Columns

Sets

- 01.CIMENTACION
  - 01.CIMENTACION+
  - 02.ESTRUCTURA+
    - 02.10.10.VIGAS
      - 02.10.30.FORJADOS
        - 02.20.10.PILARES
          - 02.20.20.MUROS
- 03.ENVOLVENTE+
  - 04.INTERIOR+
  - 05.INSTALACIONES

Saved Viewpoints

- 1.SESION 10.01.17
- 2.SESION 14.02.17
- 3.INSTALACIONES (Patios)
  - Generales
  - Paseos (WALK)
  - Secciones
  - Quantification Views
    - Viewpoint
    - ElementosMedidos

Quantification Workbook

Model Takeoff Virtual Takeoff Select Hide Takeoff Show Takeoff Floor

Select Markup Filter Markup Change Analysis Update

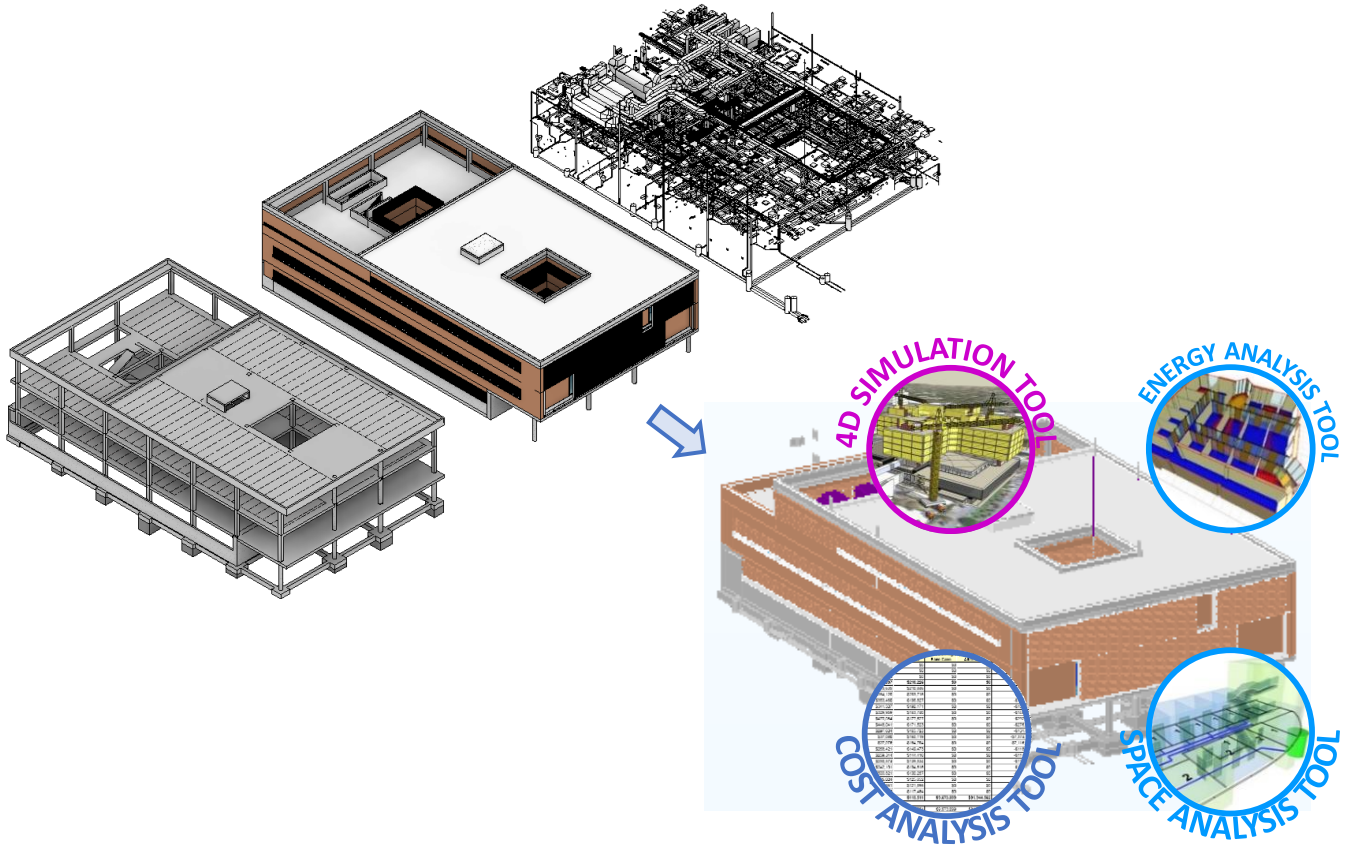
Items	WBS	Status	WBS/RBS	Name	Description	Comments	Length	Width
FORJADO 30+5.VIG.SEMI.BOV.HORM.(14)	3.EHFS74							
ENCOFRADO LOSAS MADERA PINO(17)	3.EHLE11							
ENCOFRADO LOSAS TABLERO FENOLICO(62)	3.EHLE20							
HORMIGON HA-25 EN LOSAS(17)	3.EHLEH10							
FORJADO RETIC.30+7.BLOQUE HORM.(35)	3.EHREB20							
ENCOFRADO PILARES PANEL METALICO(490)	3.EHSE30							
ENCOFRADO PANTALLA ASCENSOR Y ANTEPECHO CUBI...	3.EHSE31							
ENCOFRADO DE PILARES CIRCULARES(10)	3.EHSE60							

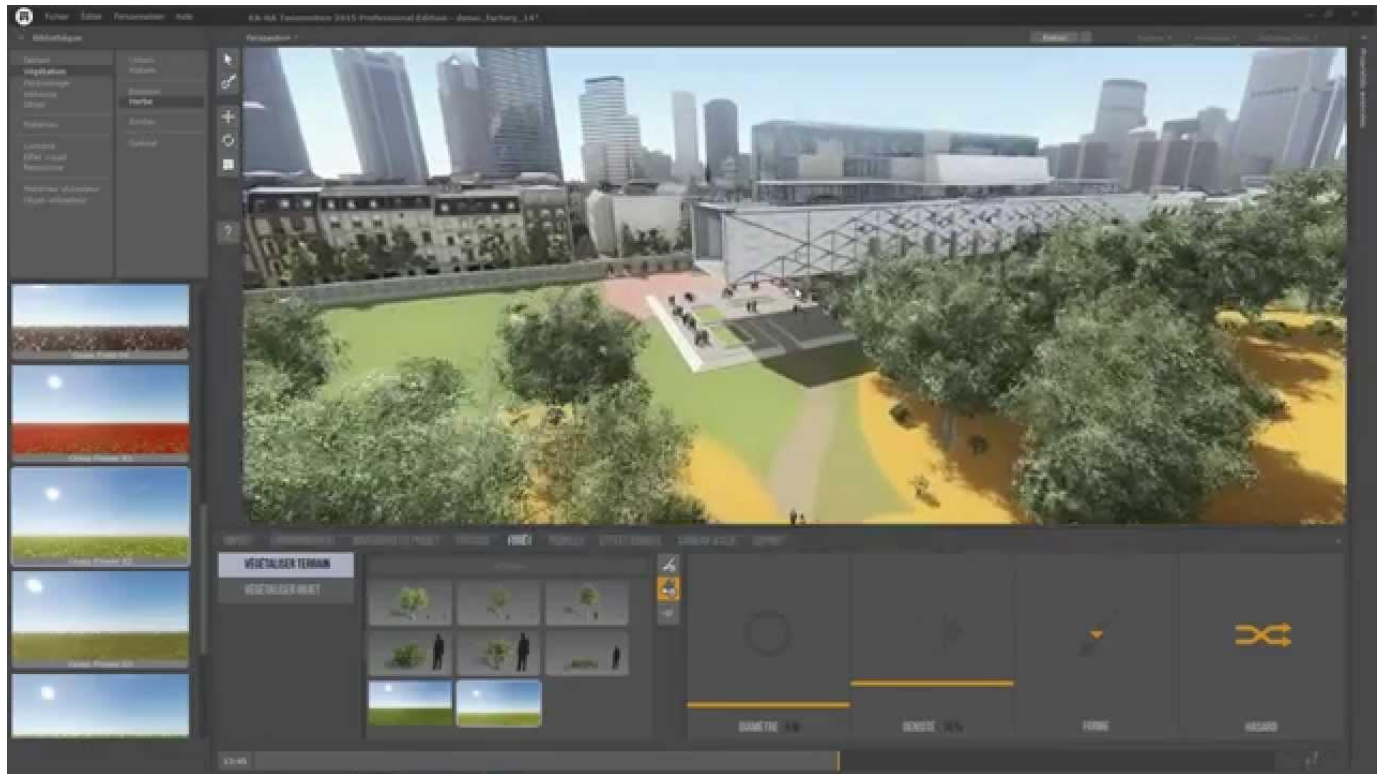
Status	WBS	Object	Viewpoint	Comments	ModelLength	ModelWidth	ModelThickness	ModelHeight
	3.EHLE20.1	Floor					0.370 m	
	3.EHLE20.2	Floor					0.370 m	
	3.EHLE20.3	Floor					0.370 m	
	3.EHLE20.4	Floor					0.370 m	

Quantification Workbook Item Catalog Resource Catalog

Ready 1 of 2 692

Los formatos abiertos son idóneos para la simulación cuando no se requiere bi-direccionalidad.





# Software para Facility Management

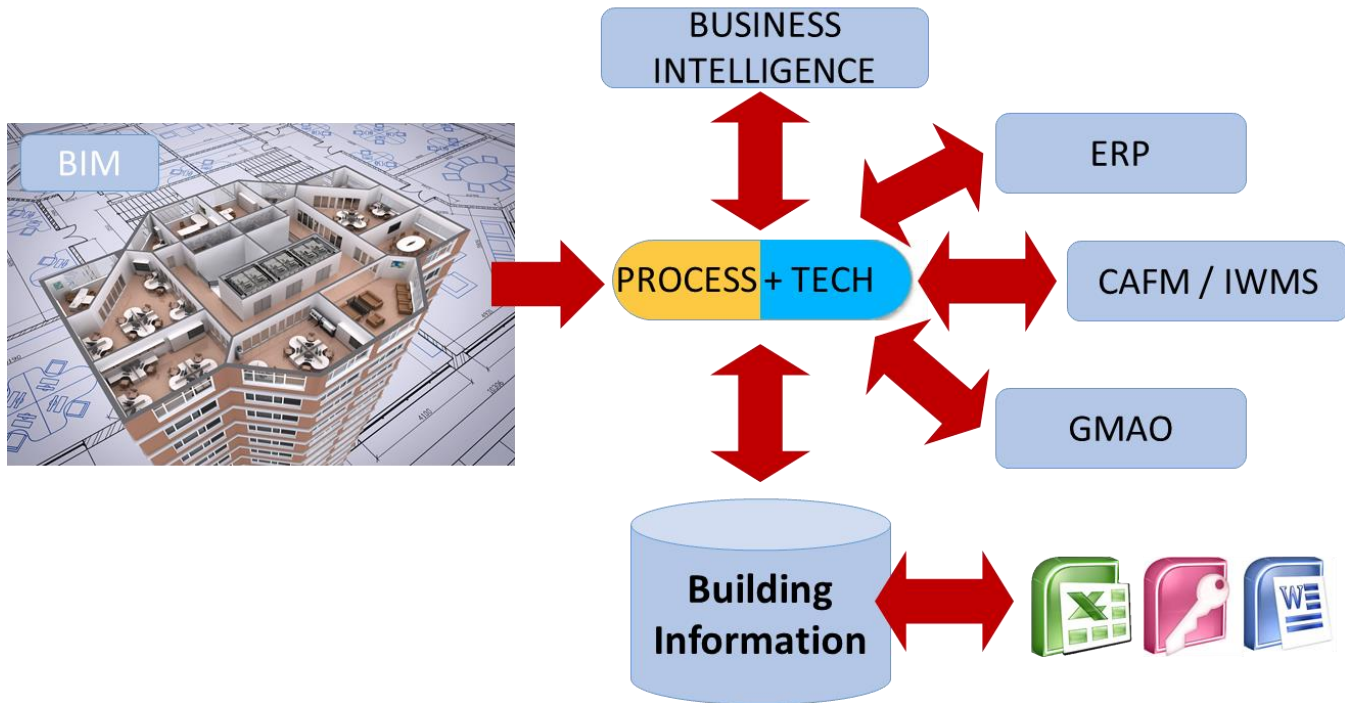
ORGANIZAN:

PATROCINAN:

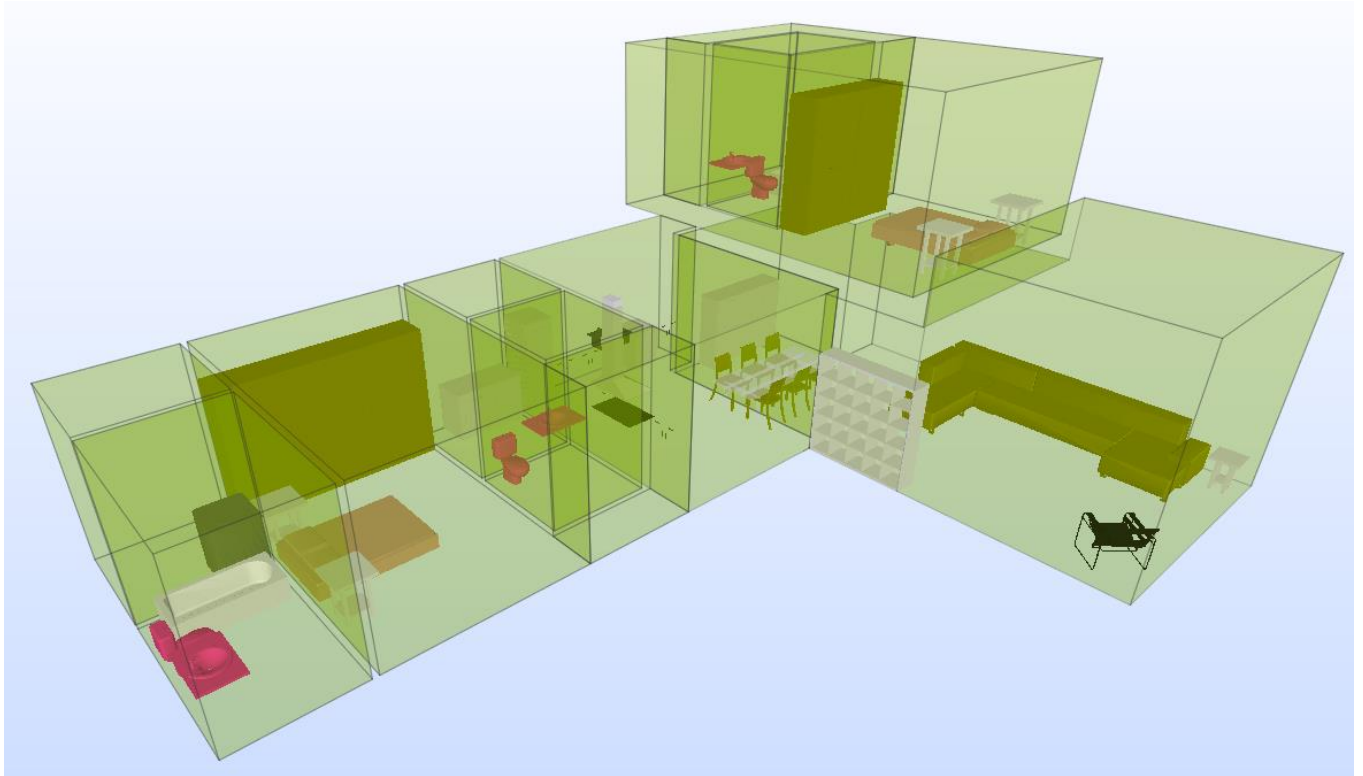
AUSPICIAN:



# El software de gestión permite usar la información de los modelos para gestionar el inmueble



# La estructura de los modelos en IFC está estructurada jerárquicamente





SPEED



**ARCHIBUS** Portfolio Manager Home Applications

Web Central 3D Navigator - Space

Space Occupancy

Locations

Building	Floor	Room Area (m <sup>2</sup> )	Capacity	Occupancy	Room Count
HB	01	41,943.23	0	0	144
HB	02	51,290.65	0	0	245
HB	03	25,741.95	0	0	77
HB	04	24,890.55	0	0	90
HB	05	8,348.55	0	0	30
HB	06	952.14	0	0	6
HB	0A	46,273.44	0	0	285
HB	0C	30,429.33	0	0	135
		<b>258,877.06</b>	<b>0</b>	<b>0</b>	<b>1,082</b>

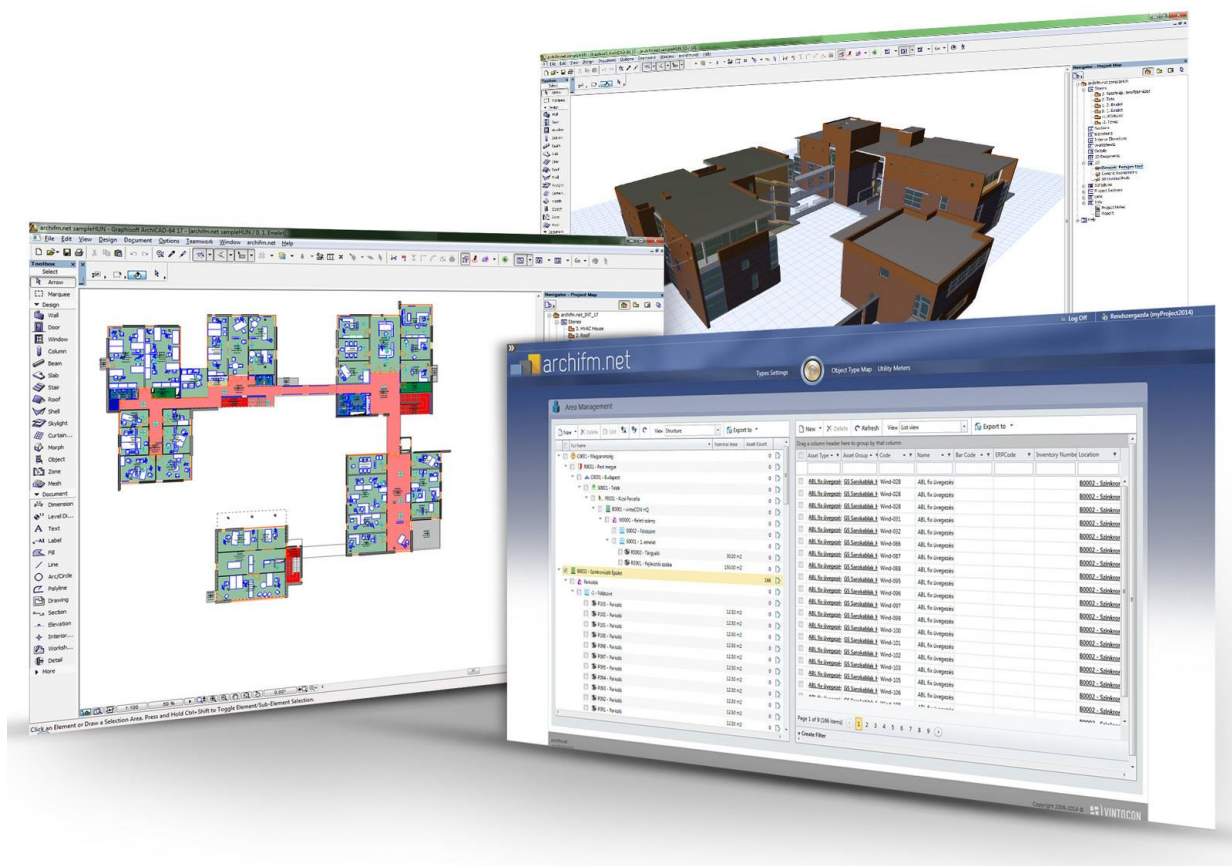
Organizations Room Categories Rooms

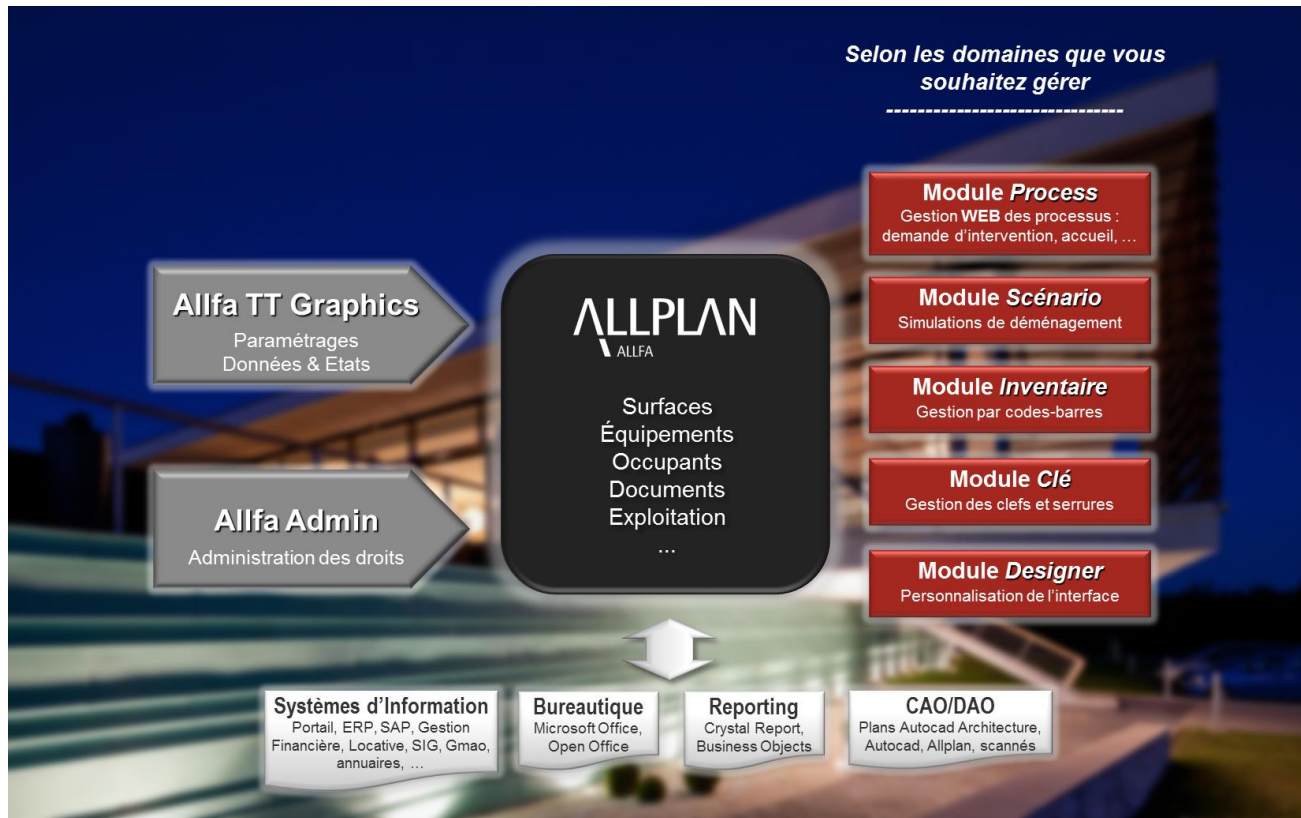
Restrict to HB	Room Category	Area (m <sup>2</sup> )	Count	Assign
BUS DEVELOPMENT	Business	2,670.64	5	Assign
BUSINESS ADMIN	Development	6,961.57	59	Assign
BUSINESS ADMIN	Administration	6,961.57	59	Assign
CORPORATE HQT	Corporate	4,502.50	20	Assign
ELECTRONIC SYS	Electronic Systems	51,794.91	180	Assign
EXECUTIVE	Executive	1,223.60	4	Assign
FACILITIES	Facilities	123,562.53	429	Assign
HUMAN RESOURCES	Human Resources	2,609.94	14	Assign
INFORMATION TECH	Information Technology	1,837.22	8	Assign
OPERATIONS	Operations	9,286.61	47	Assign
SOFTWARE APP	Software applications	19,312.74	222	Assign

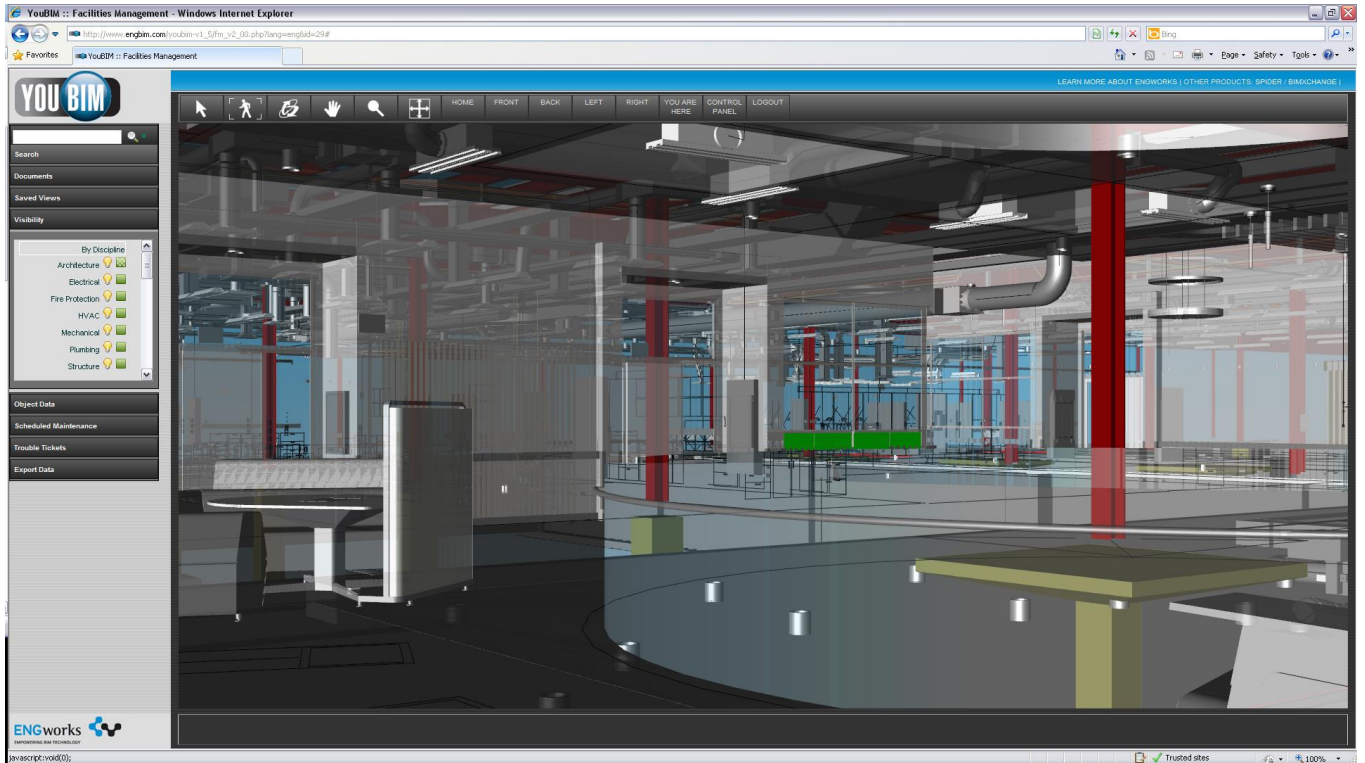
Exterior / Core Disciplines Floor Elements

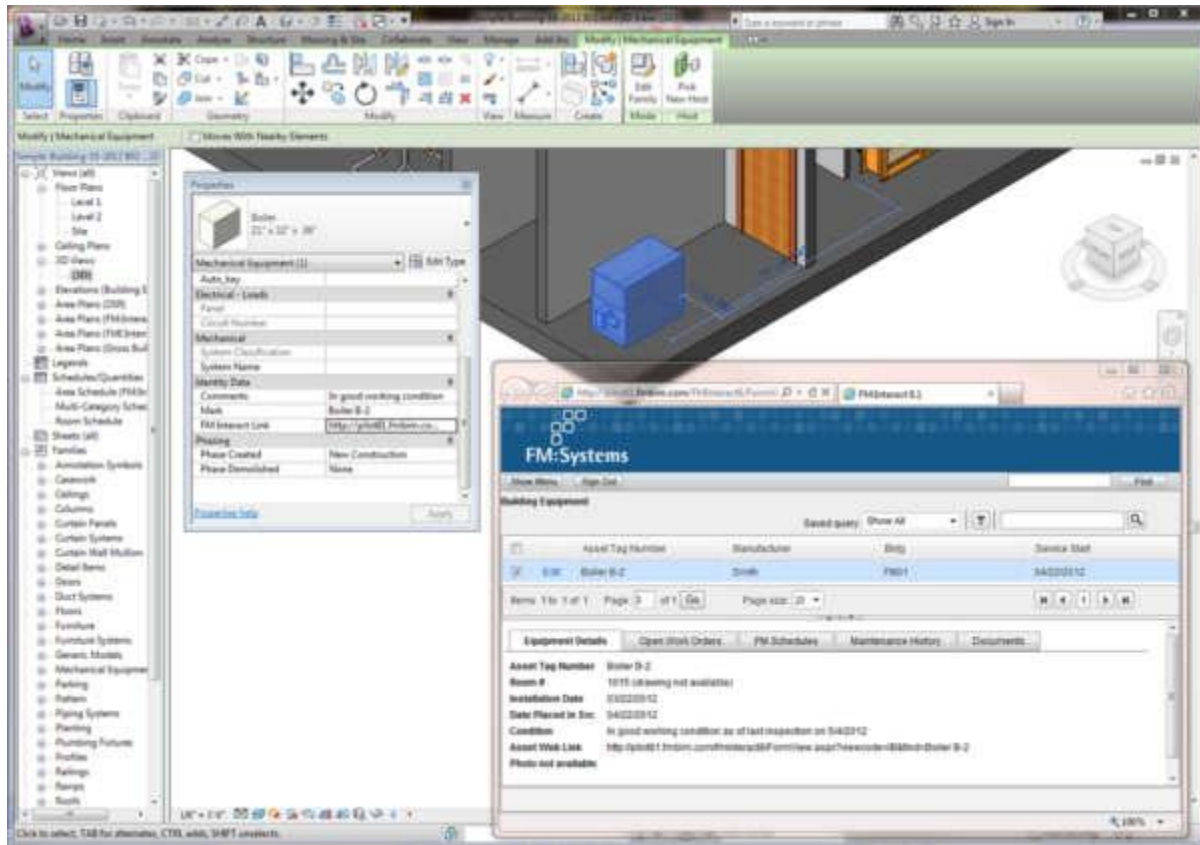
ARCHIBUS











# Servicios en la nube

ORGANIZAN:



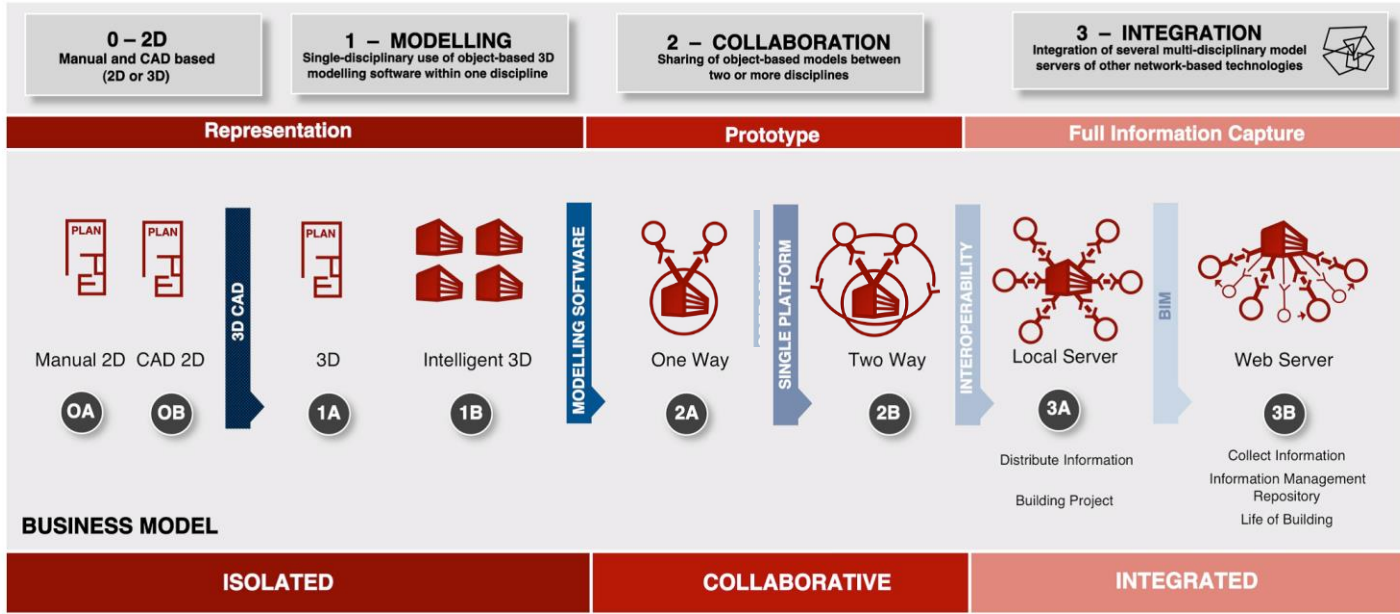
PATROCINAN:



AUSPICIAN:

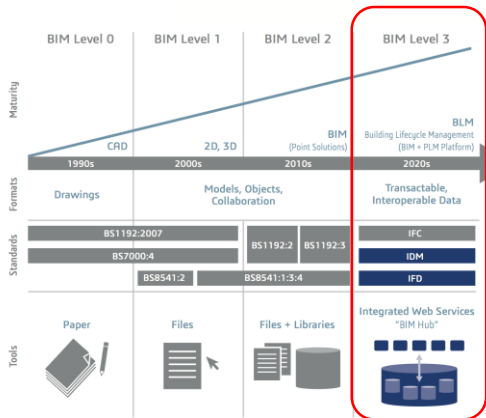
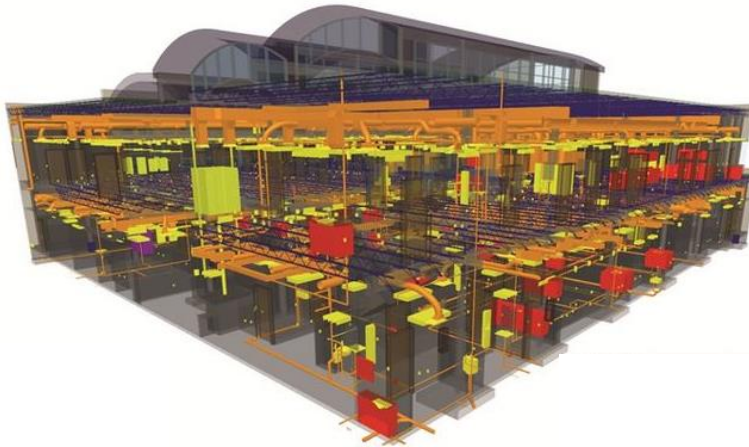


## Un BIM Integrador (Nivel 3) requiere de servicios de información en la nube



<https://mclachlanlister.wordpress.com/2012/08/23/bim-project-models-and-contractual-forms/>

# El BIM en la nube abre la puerta a una gestión integral basada en metodologías BIG Data

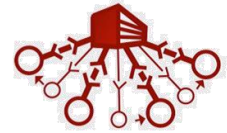


Por cierto, también requiere el uso de estándares abiertos...



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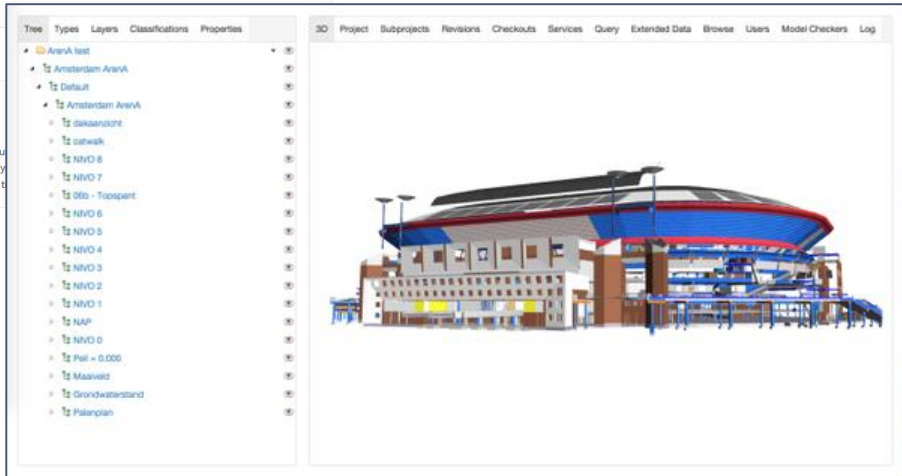
### FOR USERS

Find out what the BiMserver.org platform is and get inspired by what it did for others.



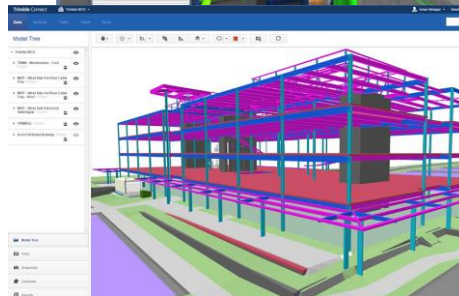
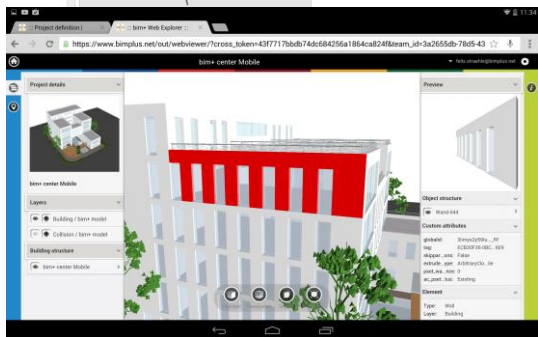
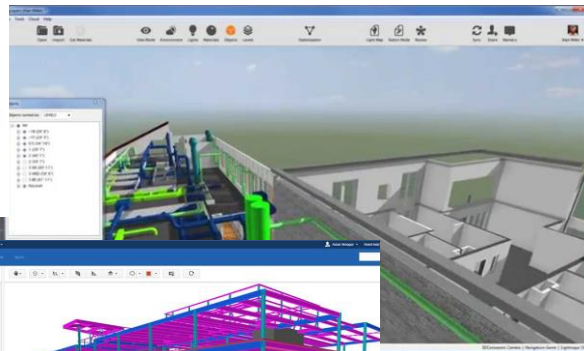
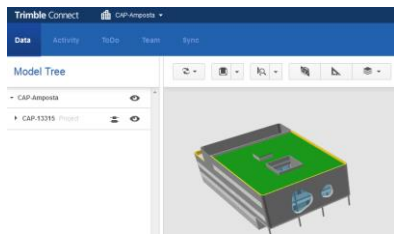
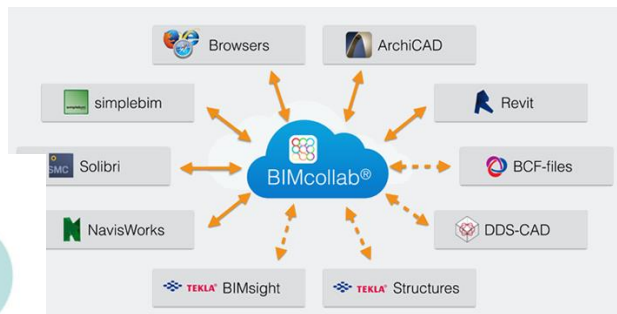
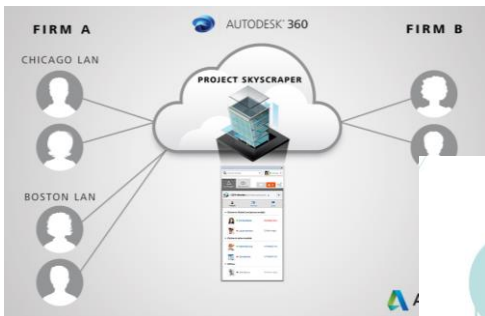
### FOR MAGICIANS

Learn how to use BiMserver to build application, or how to connect your software to a BiMserver-based t





# Los BIM web servers hoy son una realidad



# Hardware para BIM

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# Equipamiento mínimo según categoría de software

Componente	MODELADO	REVISIÓN	SIMULACIÓN	FM ON-LINE
<b>Procesador</b>	Intel Core i7 o similar	Intel Core i5 o superior	Intel Core i7 o similar	Intel Core i3 o similar
<b>Sistema operativo</b>	Microsoft® Windows® 8.1 64-bit	Microsoft® Windows® 8.1 64-bit	Microsoft® Windows® 8.1 64-bit	Microsoft® Windows® 7 SP1 64-bit o superior
<b>RAM</b>	16 ó 32GB	8GB	16GB	2GB
<b>Disco</b>	100GB en SSD	100GB en SSD	15GB Libres a 15,000+ RPM o SSD	5GB Libres
<b>Tarjeta Gráfica</b>	Gráfica dedicada de 4GB	Gráfica dedicada de 4GB	Gráfica dedicada de 4GB	-
<b>Conexión</b>	Conexión Ethernet de 1GB	Conexión Ethernet de 1GB	Conexión Ethernet de 1GB	Conexión Ethernet de 1G



# Gracias por su atención

[hola@colomaarmengol.com](mailto:hola@colomaarmengol.com)

