



# Midas nGen

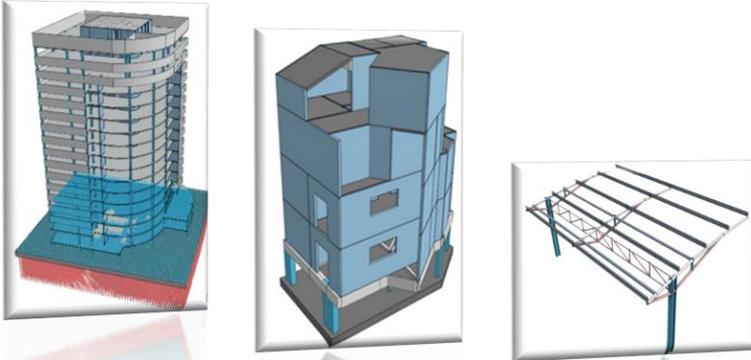
Modellazione e mesh parametriche  
per edifici multipiano

# MIDAS SOLUTIONS

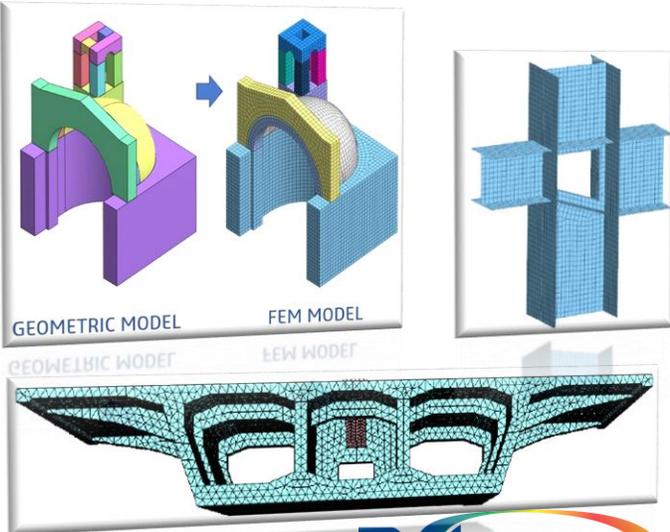
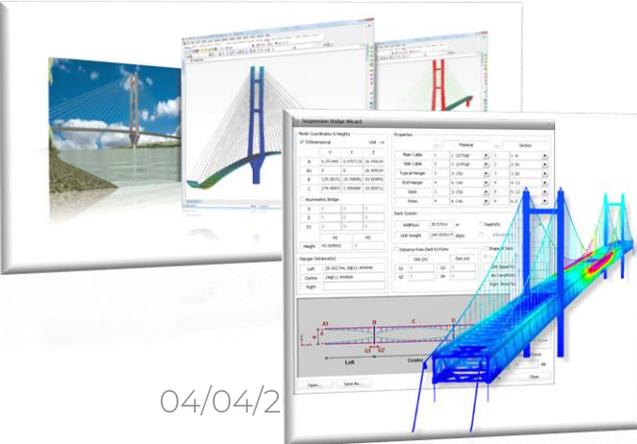
General Design & Analysis software



Building Design & Analysis software



Bridge Design & Analysis software



Advanced Detail Modeler Software



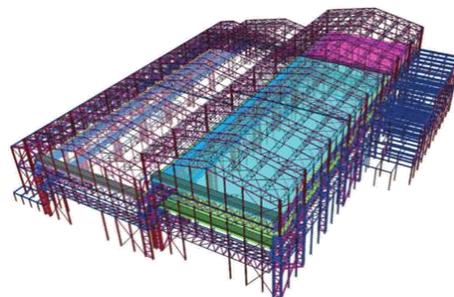
# STRUCTURAL SYSTEM

Attraverso NGEN possiamo andare a calcolare diverse tipologie strutturali:

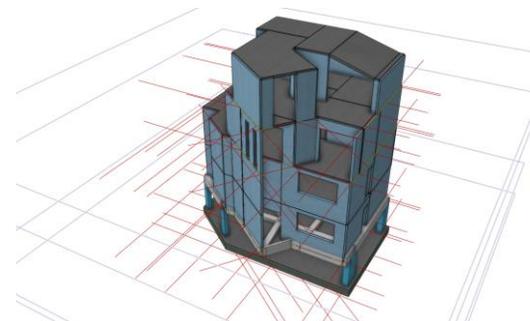
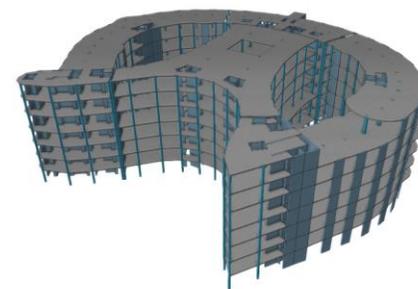
**RC**



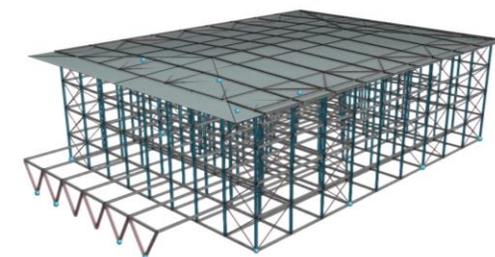
**Plant / Tanks**



**Irregular Structures**



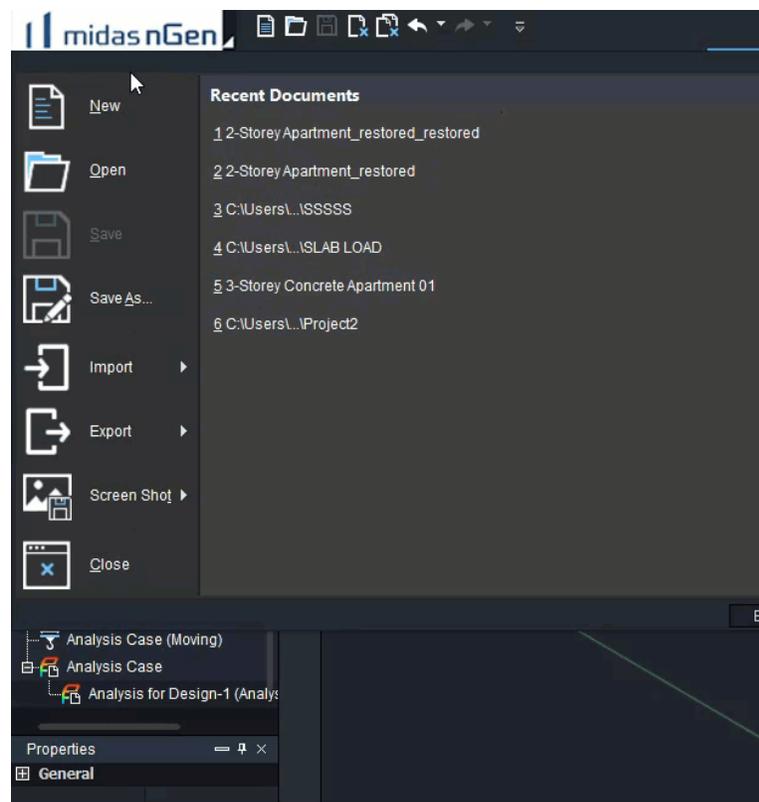
**Steel**



# TIPOLOGIE DI MODELLAZIONE

Possiamo usare differenti strade per modellare la nostra struttura:

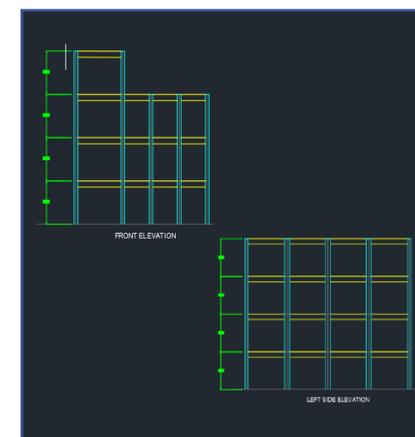
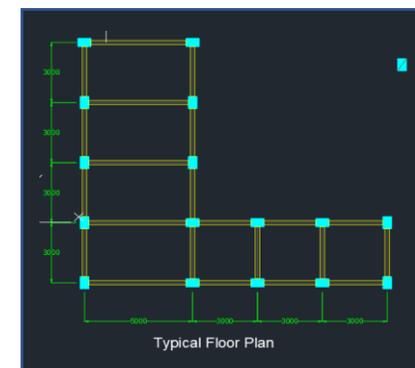
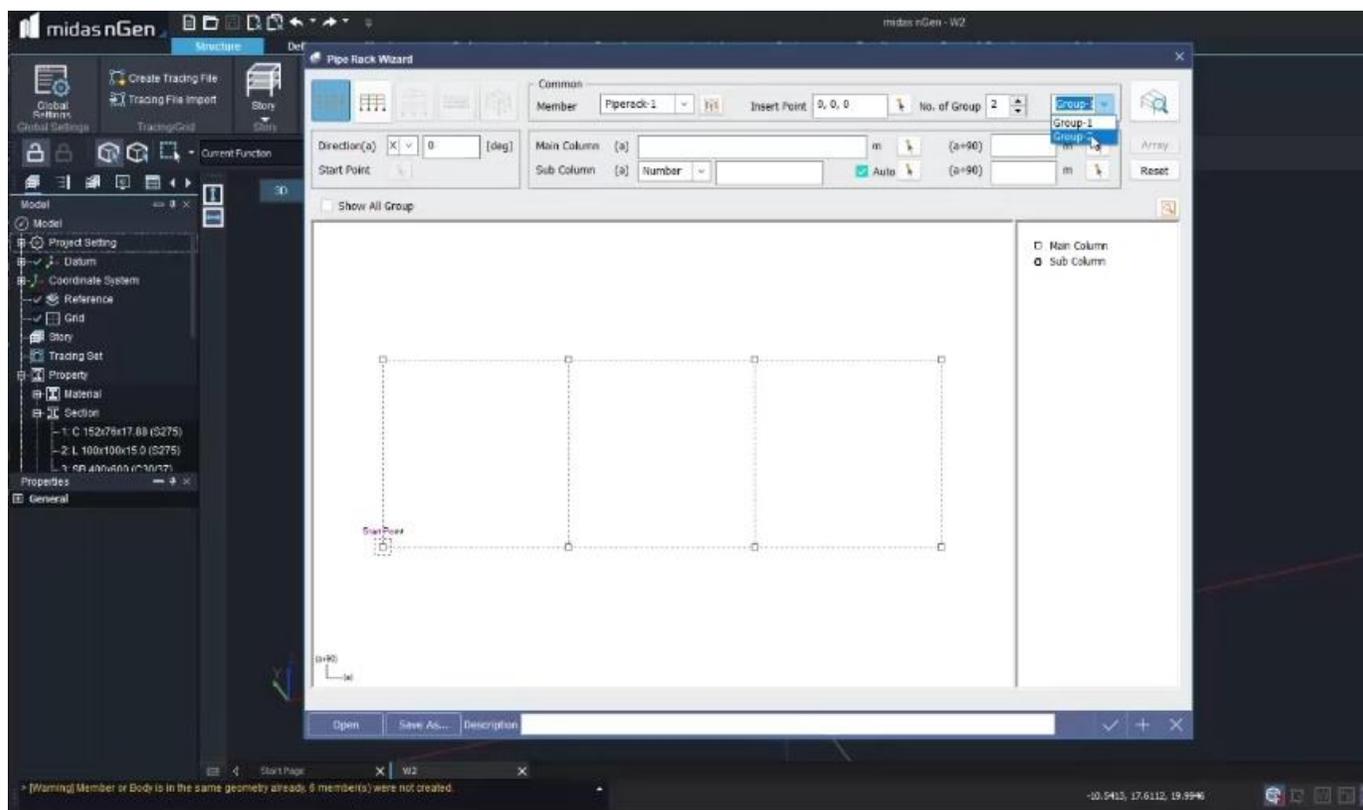
## Import



# TIPOLOGIE DI MODELLAZIONE

Possiamo usare differenti strade per modellare la nostra struttura:

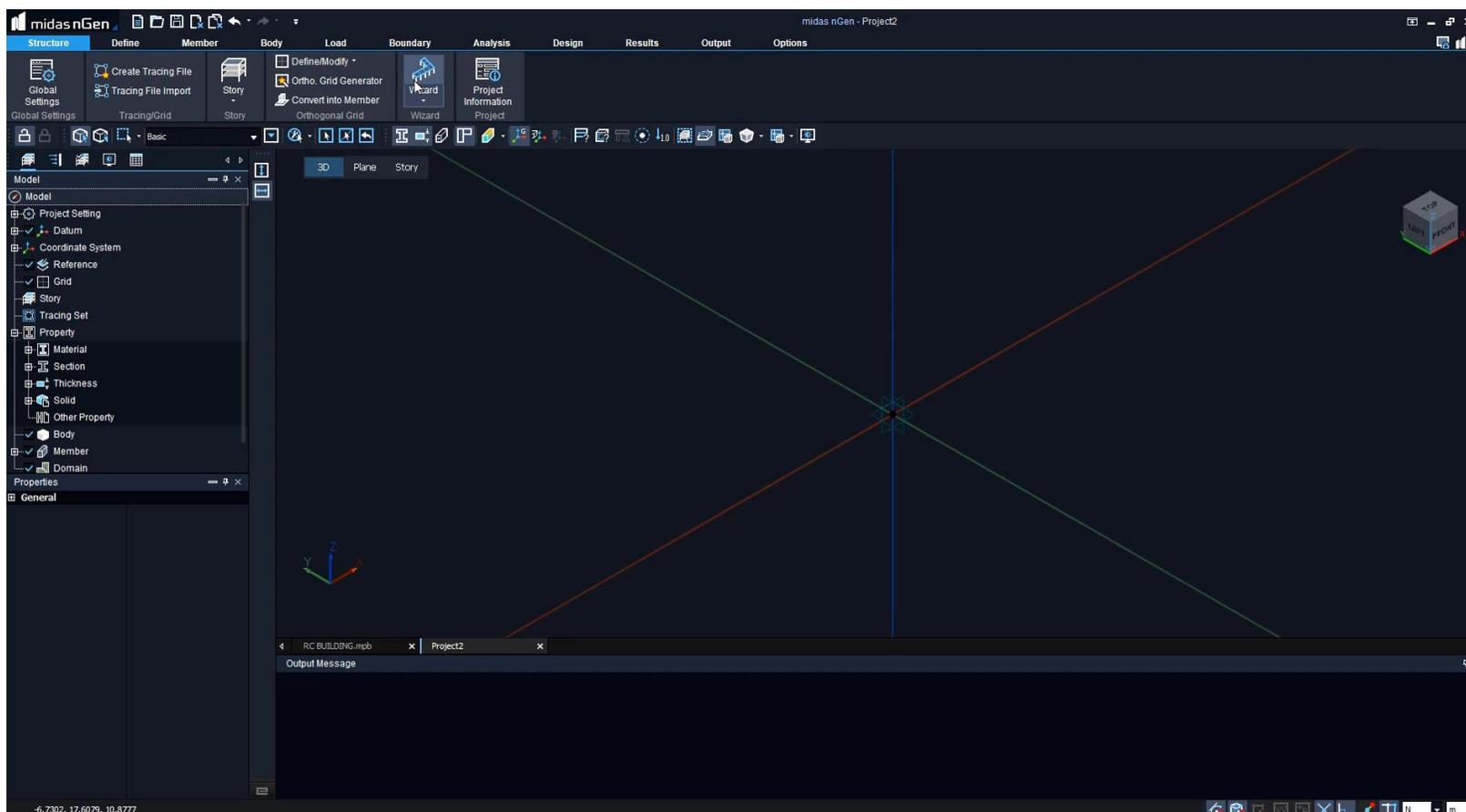
## Wizard



# TIPOLOGIE DI MODELLAZIONE

Possiamo usare differenti strade per modellare la nostra struttura:

## Wizard

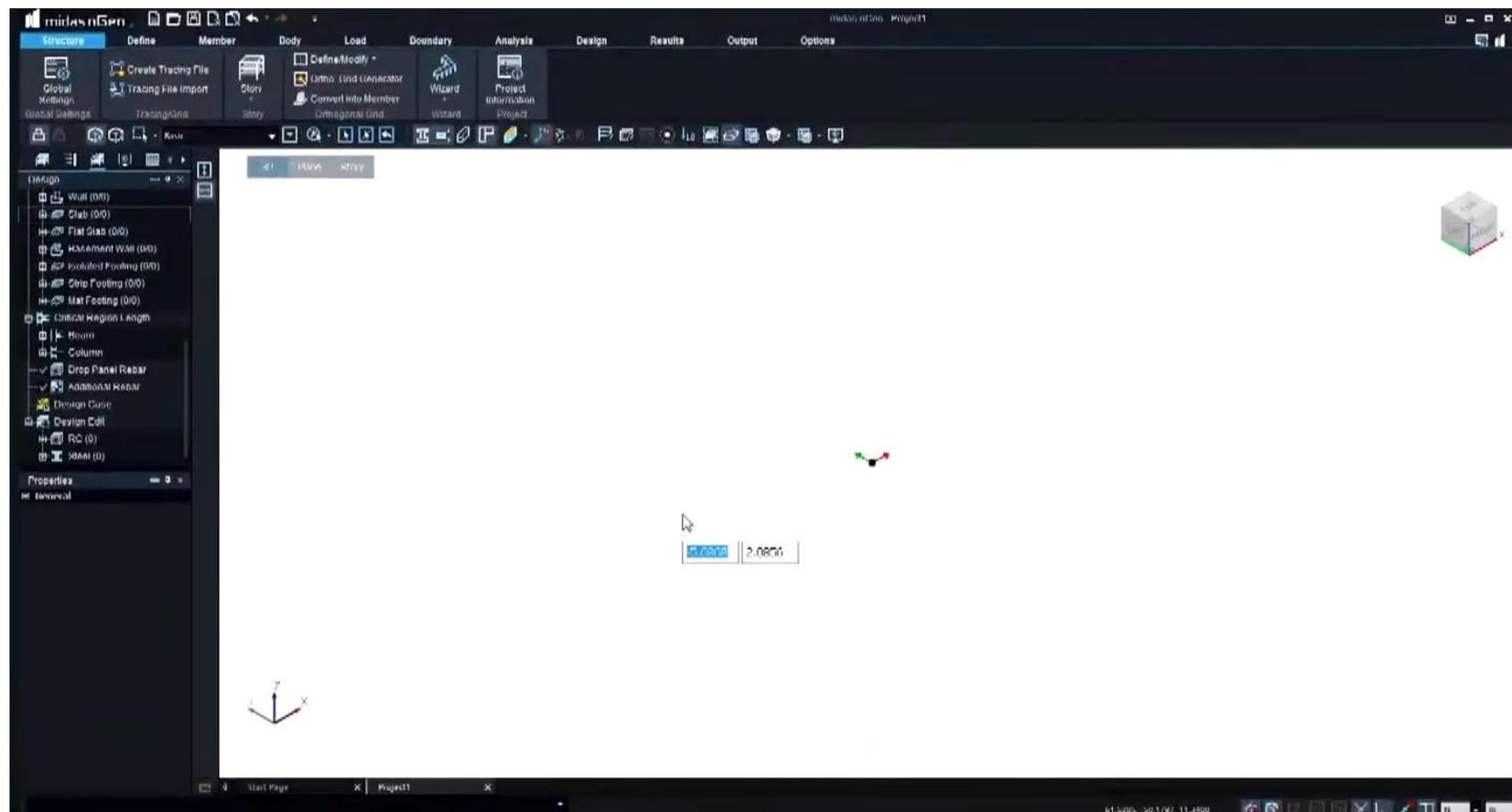


04/04/2023

# TIPOLOGIE DI MODELLAZIONE

Possiamo usare differenti strade per modellare la nostra struttura:

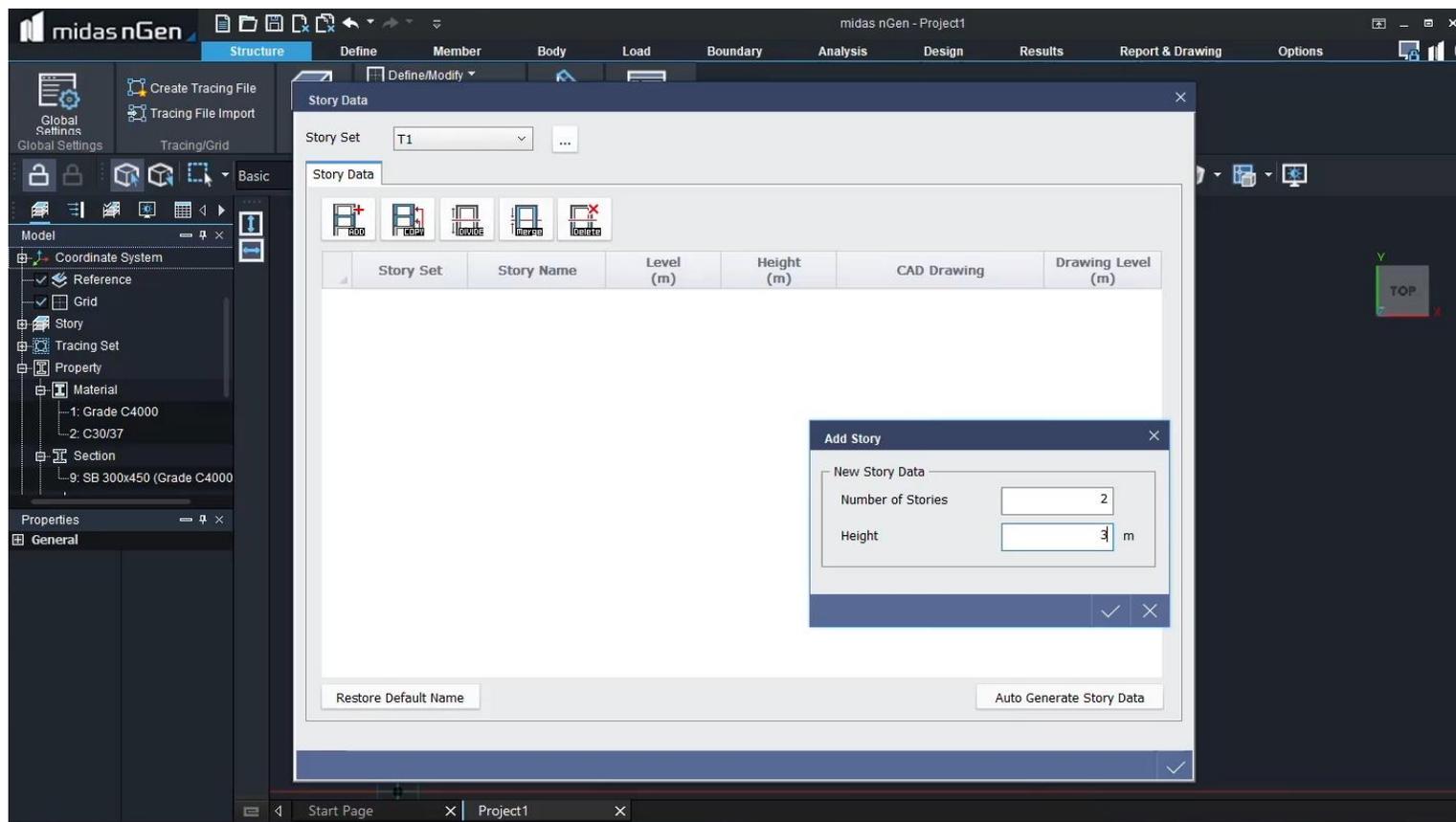
## Geometry Based



# TIPOLOGIE DI MODELLAZIONE

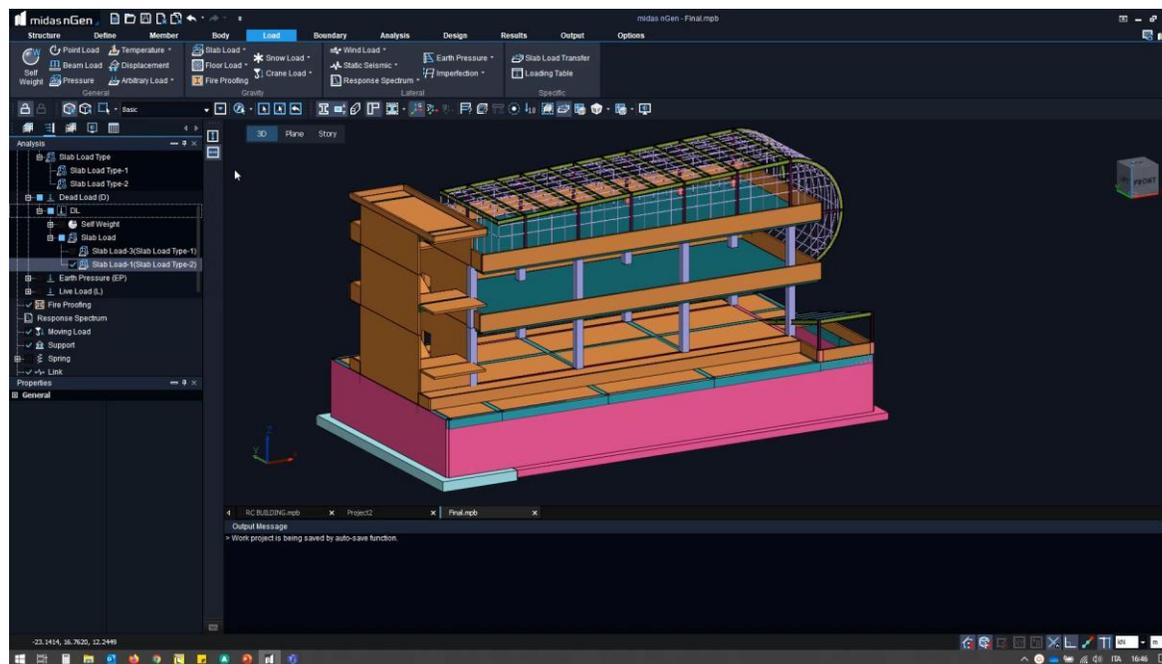
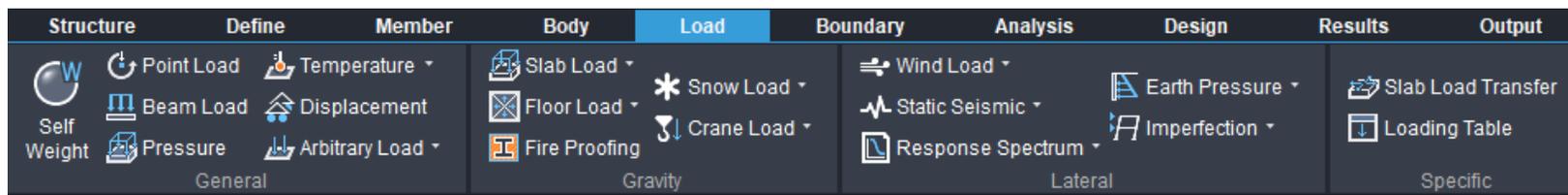
Possiamo usare differenti strade per modellare la nostra struttura:

## CAD Tracing



# TIPOLOGIE DI CARICHI

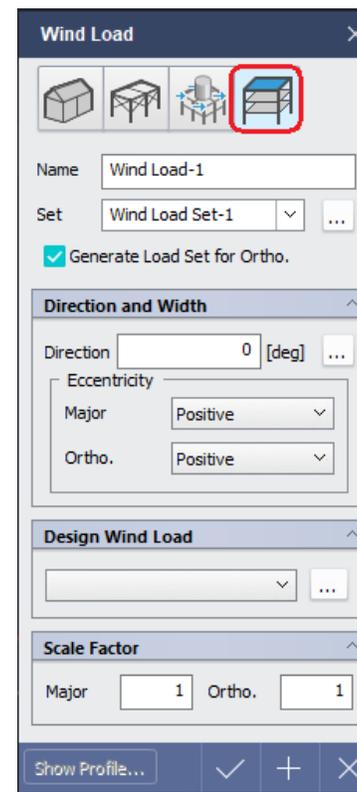
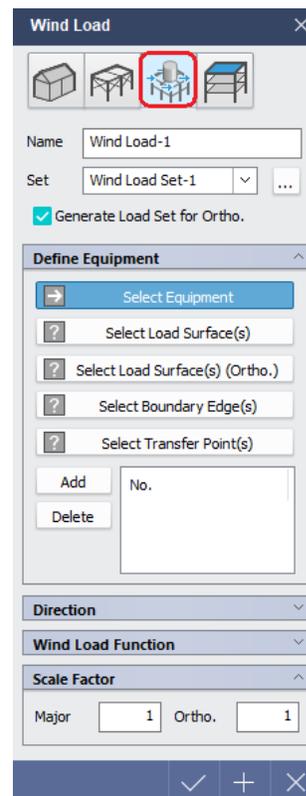
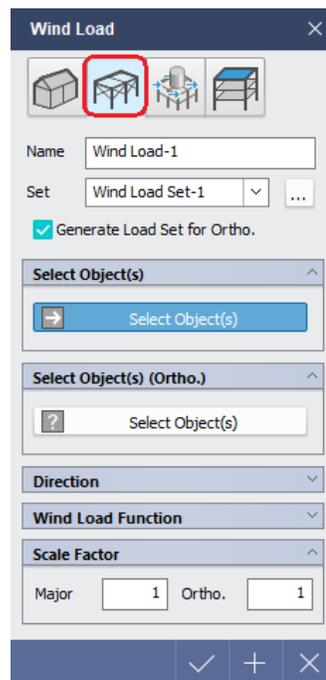
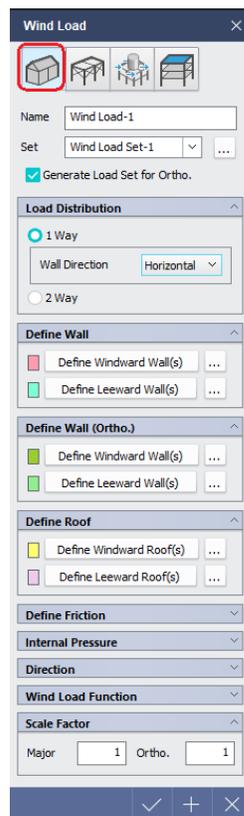
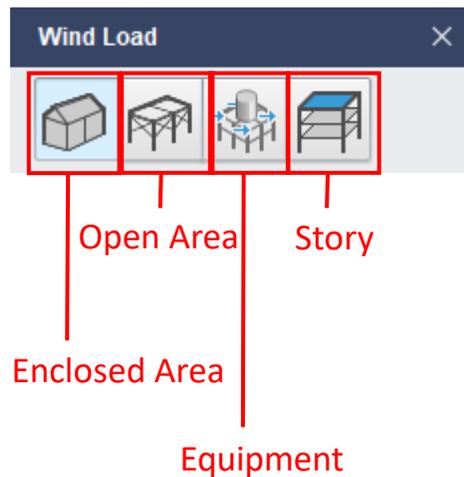
Ci sono vari tipi di carichi, tra i General , oltre ai classici carichi abbiamo anche la temperatura e gli spostamenti imposti, Tra i carichi gravitazionali anche I carichi mobili



# TIPOLOGIE DI CARICHI

Tra i carichi laterali abbiamo la possibilità di generare in automatico i carichi da vento e Sisma:

## WIND Load



# TIPOLOGIE DI CARICHI

Tra i carichi laterali abbiamo la possibilità di generare in automatico i carichi da vento e Sisma:

## SISMIC Load

### STATIC SISMIC Load

Building Structure

General Structure

Static Seismic Load

Name: Static Seismic Load-1

Set: Seismic Load Set-1

Direction and Width

Direction: 0 [deg]

Design Seismic Load

Scale Factor

Major: 1 Ortho: 0

### RESPONSE SPECTRUM Load

Response Spectrum

Name: Response Spectrum-1

Set: Response Spectrum Set

Direction

Response Spectrum Function

Period Modification Factor

Modification Factor: 1

# AUTO-GENERATION OF MESH

La definizione della mesh può essere gestita prima del lancio dell'analisi. Si possono creare delle zone di infittimento e la si può modificare tutte le volte che si vuole senza dover riapplicare i carichi ai Member della struttura:

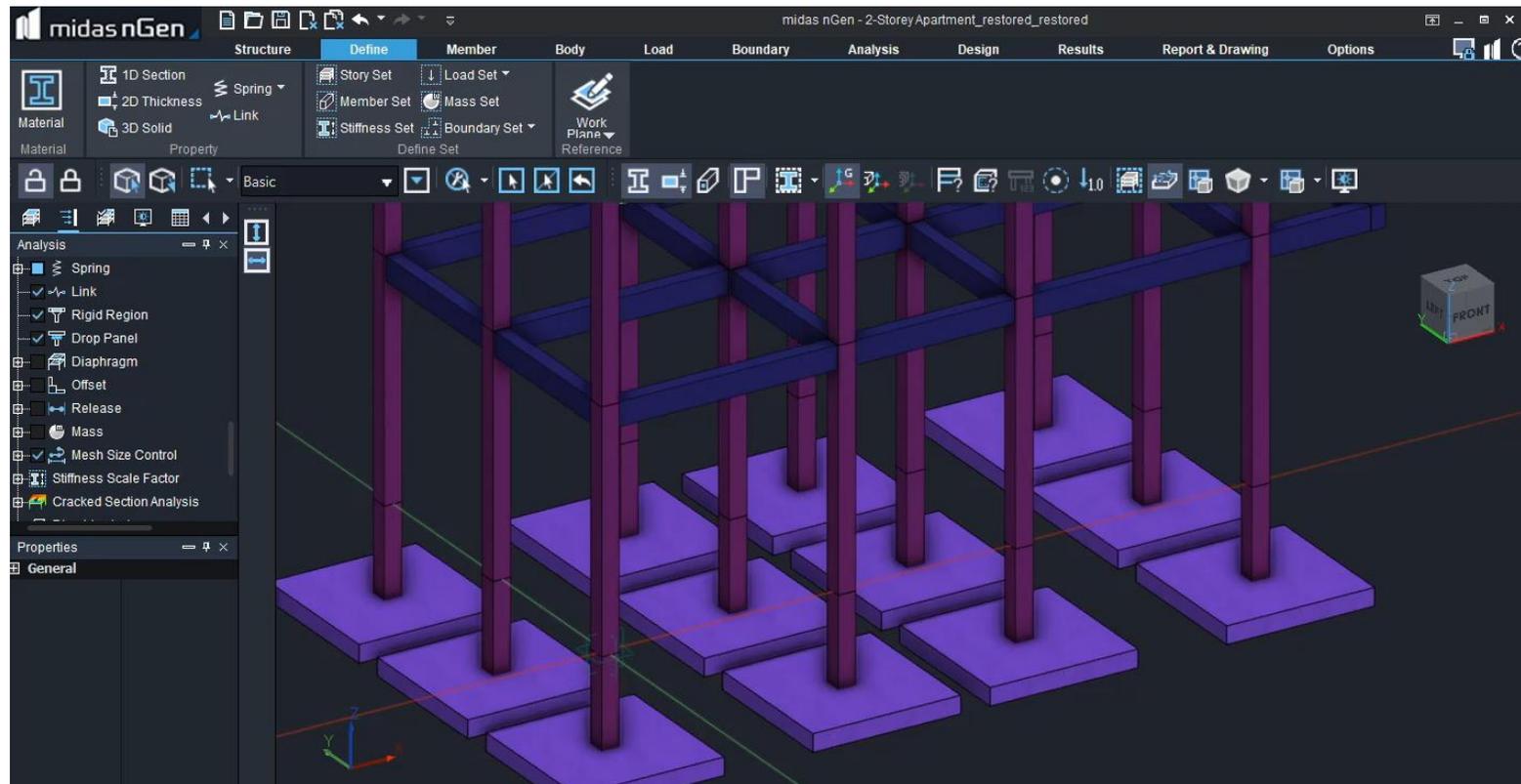
The image displays the software's main menu bar with the following tabs: Structure, Define, Member, Body, Load, Boundary, Analysis, Design, Results, and Output. The 'Analysis' tab is active, and the 'Mesh Size Control' icon is highlighted with a red box. Below the menu, two examples of mesh size control are shown:

- Mesh Size Control for 2D element:** A 3D model of a curved arch structure with a yellow mesh. A red box highlights a specific area of the mesh. A dialog box titled 'Mesh Size Control' is open, showing the 'Surface Ctrl-2' target and a method of '.3 m'.
- Mesh Size Control for 3D element:** A 3D model of a frame structure with a yellow mesh. A red box highlights a specific area of the mesh. A dialog box titled 'Mesh Size Control' is open, showing the 'Volumn Ctrl-1' target and a method of 'Selected 1 Object(s)'.

# CASI DI ANALISI MULTIPLI

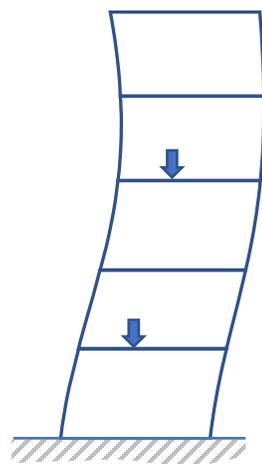
E' possibile andare a generare dei diversi set di analisi che possono essere inseriti o eliminati all'interno di differenti tipologie di analisi in cui l'utente può decidere di attivarle o disattivarle:

- Mass Set
- Story Set
- Member Set
- Stiffness Set
- Boundary Set

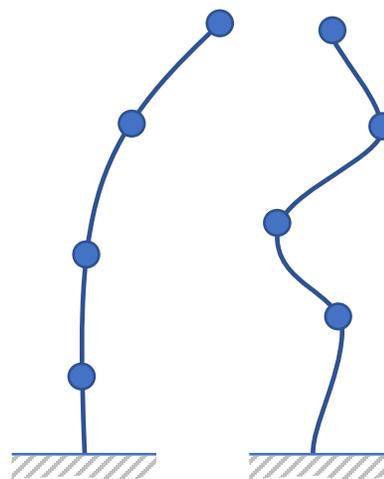


# TIPOLOGIE DI ANALISI

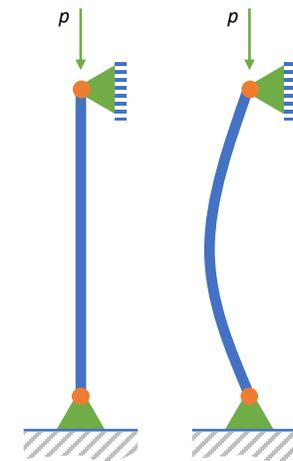
All'interno di Midas NGEN è possibile eseguire le seguenti analisi. Per tutte quelle analisi di carattere complesso è sempre bene passare al GEN:



P-Delta Effect



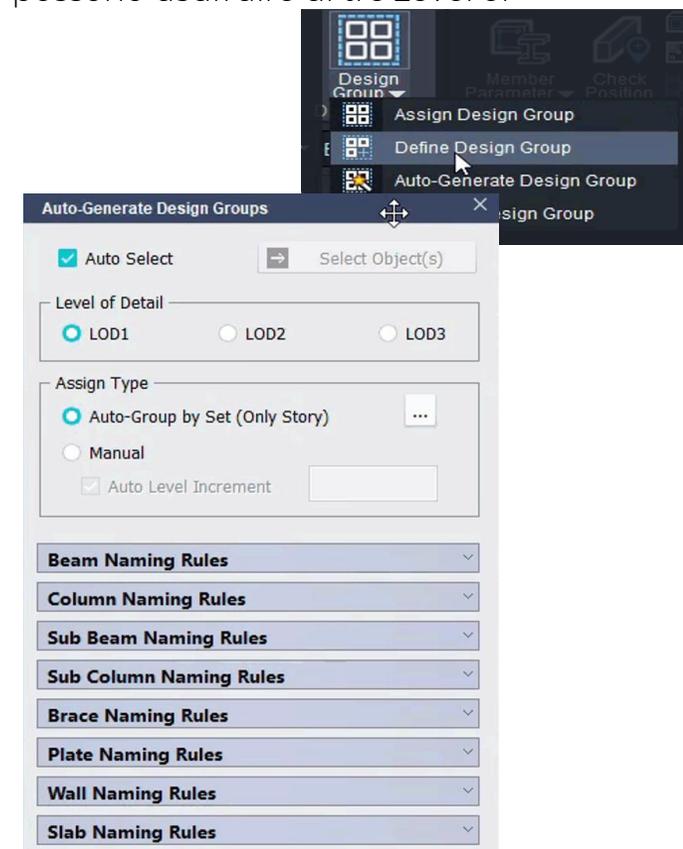
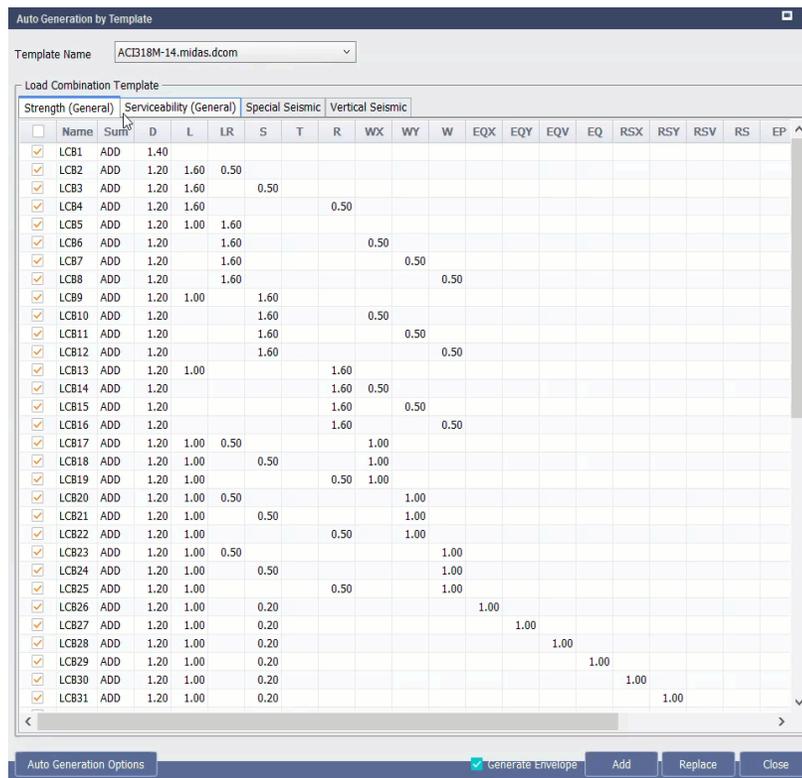
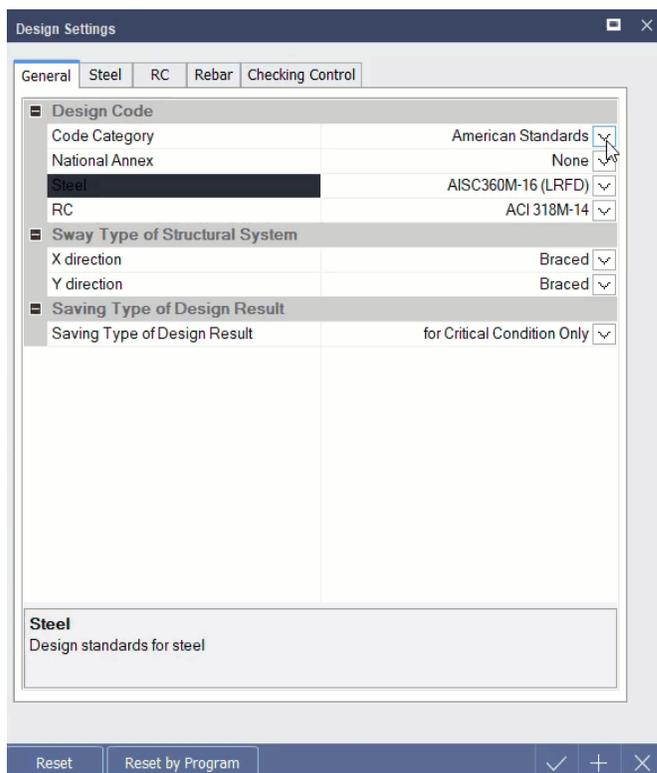
Modal Analysis



Linear Buckling

# DESIGN

Per la parte di Design, ritroviamo le Normative più comuni, compresi l'Eurocodice e l'NTC2018. Possiamo andare a creare dei Design Groups e agli elementi che appartengono allo stesso gruppo verranno assegnate le stesse armature che possono usufruire di tre Level of Detail, I quali si differenziano per tipologia di sezione, posizione, stessa travata pilastrata ecc.:



# REPORT

Generazione automatica del report di calcolo:

### Report Item

Search items by name

- Wind Load Report
- Wind Load Story Shear Profile
- Seismic Load Report
- Seismic Load Story Shear Profile
- Specific Load Data
  - Temperature Load
  - Displacement Load
- Loading Table Data
  - Point Load Table
  - Beam Load Table
  - Pressure Load Table
  - Arbitrary Point Load Table
  - Arbitrary Line Load Table
  - Arbitrary Pressure Load Table
  - Loading Table
- Applied Load
  - Input Loading (Dead Load)
  - Input Loading (Live Load)
  - Input Loading (Wind Load)
  - Input Loading (Seismic Load)
- Boundary Conditions

Live Load	LL		
Wind Load on Structure	WX		
Wind Load on Structure	WY		
Earthquake	EQX		
Earthquake	EQY		
Response Spectrum	RSm		
Response Spectrum	RSo		
Response Spectrum	RSm(ECC)		
Response Spectrum	RSo(ECC)		

Load Case List

Story	Weight(kN)	Seismic Force(kN)	Story Force(kN)	Story Shear(kN)	Overturning Moment(kN m)	Total Torsion(kN m)
Roof	2862.073	330.235	330.235	0.000	0.000	-248.025
6F	3588.636	365.205	365.205	330.235	1056.752	-272.078
5F	3588.636	288.803	288.803	695.440	3282.160	-213.688
4F	3588.636	210.026	210.026	962.243	6425.336	-156.470
3F	3588.636	135.384	135.384	1192.269	10240.597	-100.861
2F	3588.636	63.907	63.907	1327.653	14489.087	-47.611
G.L	0.000	0.000	0.000	1391.560	18942.079	0.000

Story Shear Force Table by Seismic Load Data (Static Seismic Load-1)

Story	Weight(kN)	Seismic Force(kN)	Story Force(kN)	Story Shear(kN)	Overturning Moment(kN m)	Total Torsion(kN m)
Roof	2862.073	330.235	330.235	0.000	0.000	0.000
6F	3588.636	365.205	365.205	330.235	1056.752	0.000
5F	3588.636	288.803	288.803	695.440	3282.160	0.000
4F	3588.636	210.026	210.026	962.243	6425.336	0.000

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