



MULTIFRAME

*Structural engineering software
that works the way you do.*

Multiframe Webinar 1

Working With Geometry

Philip Christensen

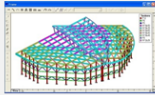
FORMSYS

About Multiframe Webinars

- Based on same live format used with our Maxsurf software
- One webinar per month
- Choose from 3 times on the day (8am, 2pm, 9pm AWST)
- Working our way through the workflow
 - Geometry
 - Properties
 - Loads
 - Analysis & Results
 - Design
 - etc
- Summary videos online a few days afterwards
- Feedback is much appreciated – philc@formsys.com

Multiframe Webinar 1

Working With Geometry



Join us for a Webinar on July 5th

We would like to welcome you to the first of a new series of webinars on our Multiframe structural analysis software. Each month we will present a new topic in the Multiframe workflow that will be of interest, whether you are a current user, or whether you are considering Multiframe for use in the future.

This webinar will cover techniques for creating structural geometry in Multiframe. Topics covered will include importing DXF, importing text, copy and paste, sketching, automatic generation, sub-structures and use of grids.

Title: *Multiframe Webinar 1 – Working With Geometry*
Date: Tuesday, July 5, 2011 (Mon 4th in CA)
Times: You have a choice of three times when you can join

Webinar 1a
8am Perth(AWST), KL, Singapore, Shanghai, 9am Seoul, Tokyo, 10am Sydney, 12noon Auckland, 5pm Mon 4th San Francisco
<https://www1.gotomeeting.com/register/608659648> **REGISTER NOW**

Working With Geometry - Topics

- Setup

 - grids, dimensions, units

- Regular Structures

 - Generate

- Sketching

 - Nodes, Members, Panels/Patches

- Modifying

 - Duplicate, Rescale...

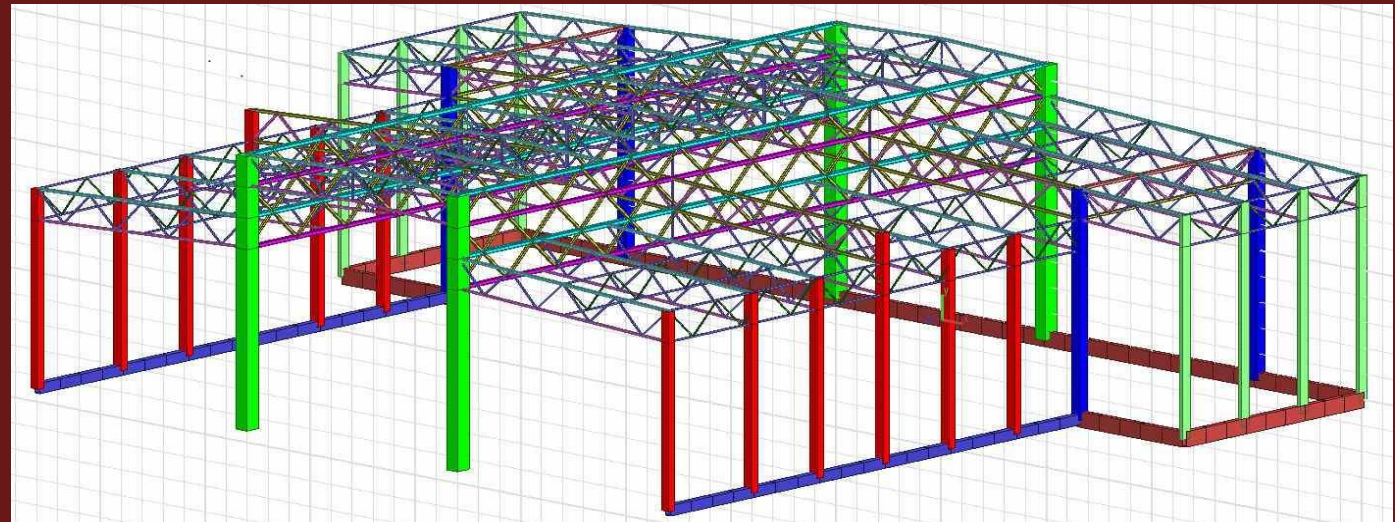
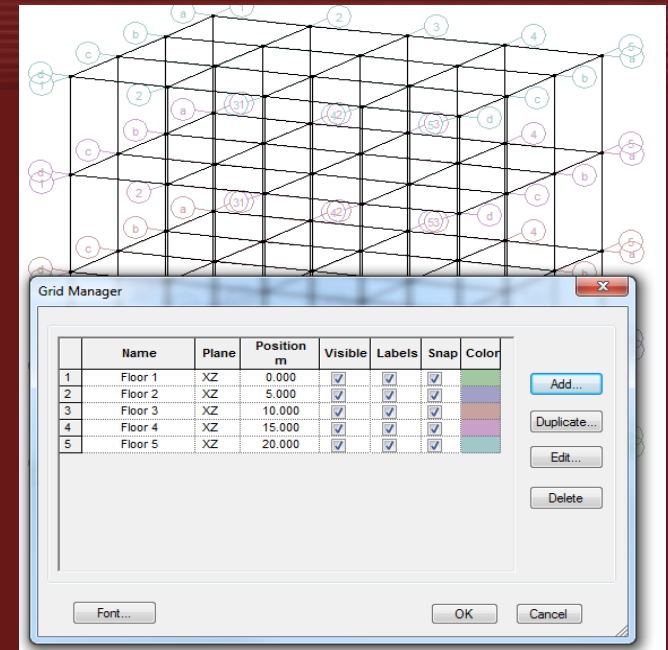
- Numeric Input

- Importing geometry

- Curved Structures

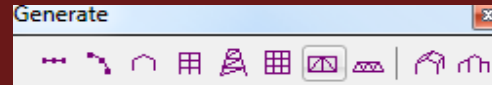
Setup

- Size
- Grid
- Drawing Depth
- Structural Grids



Generate

- Toolbars



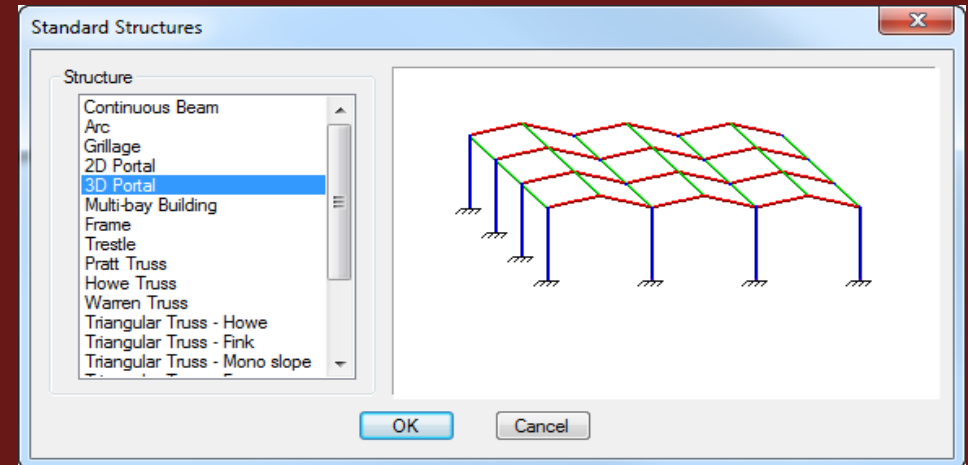
- Standard structures

 - Beams

 - Trusses

 - Frames

 - Plates



Drawing Settings

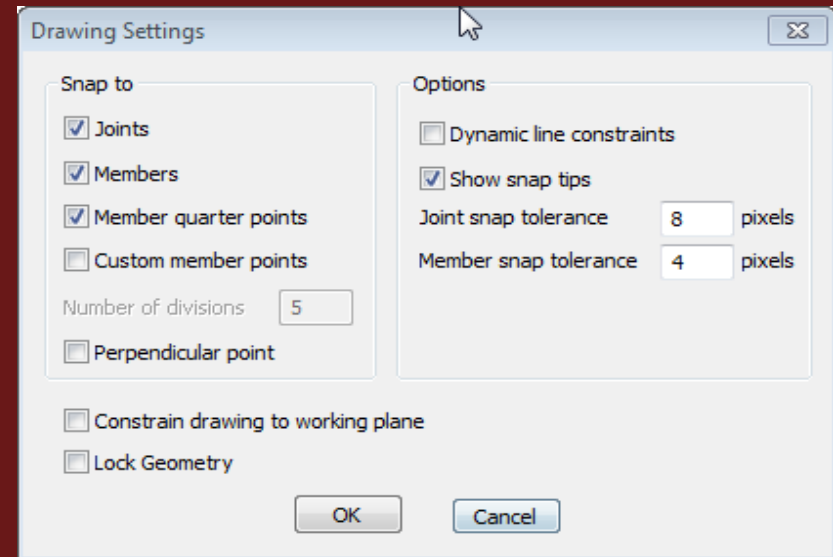
- Snap to

- Node
- Member
- Quarter Points
- Custom Points
- Perpendicular

- Snap Tolerances

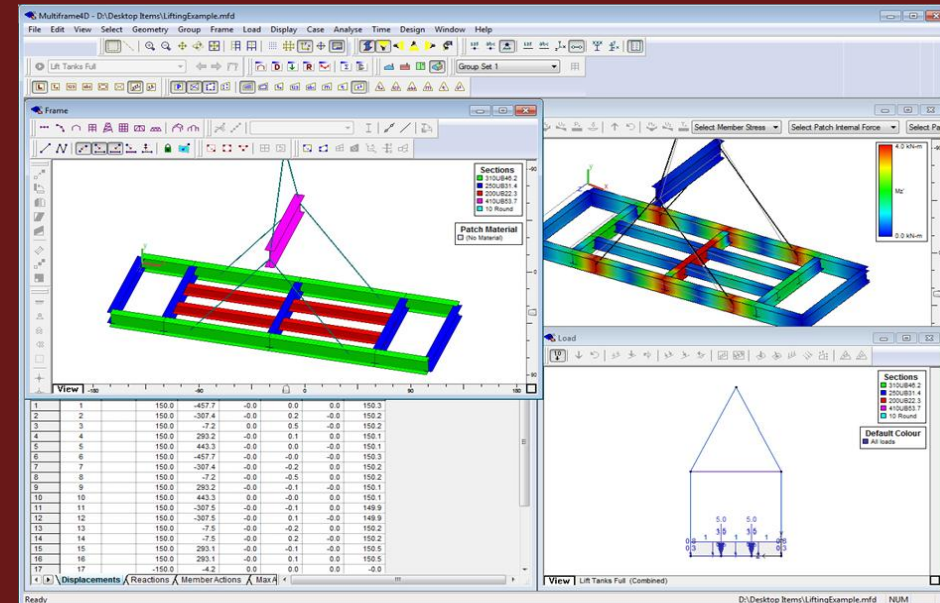
- Lock Geometry

- Toolbar shortcut
- Handy to avoid accidentally modifying the model when selecting



Sketching

- Add Node
 - Shortcut N (Version14)
- Add member
 - Shortcut Insert
- Add connected member
 - Shortcut Ctrl+Insert
- Add Panel
- Add Patch



Modifying

- Graphical

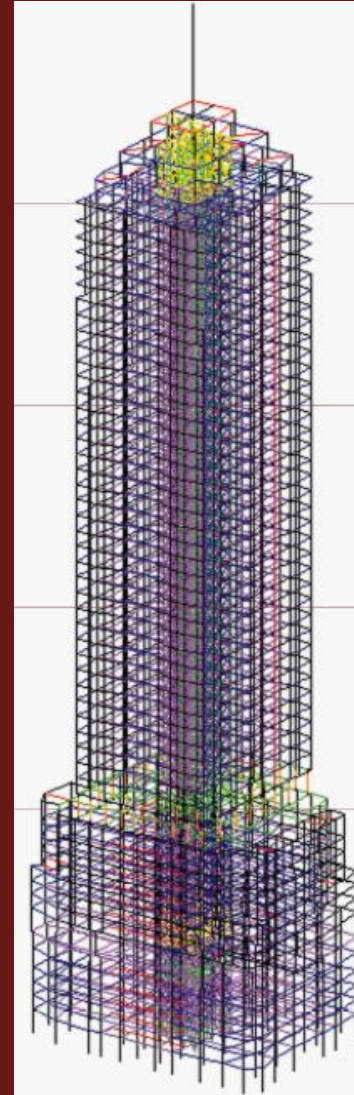
- Drag, Move
- Rotate, Mirror, Shear
- Extrude, Copy, Rescale

- Numerical

- Move
- Rotate, Mirror, Shear
- Extrude, Duplicate, Rescale

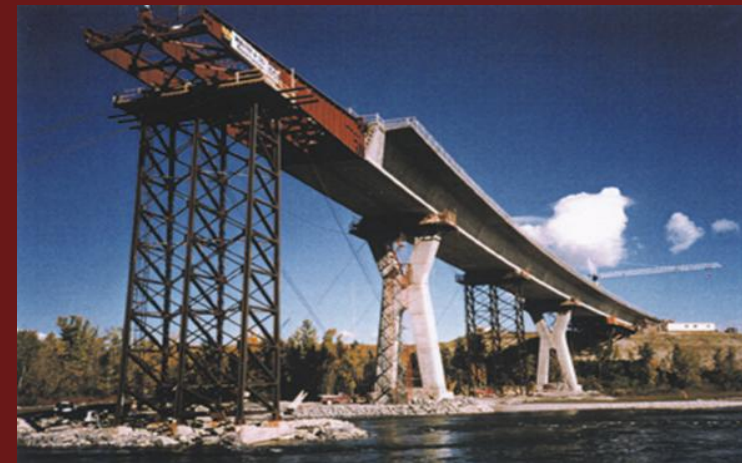
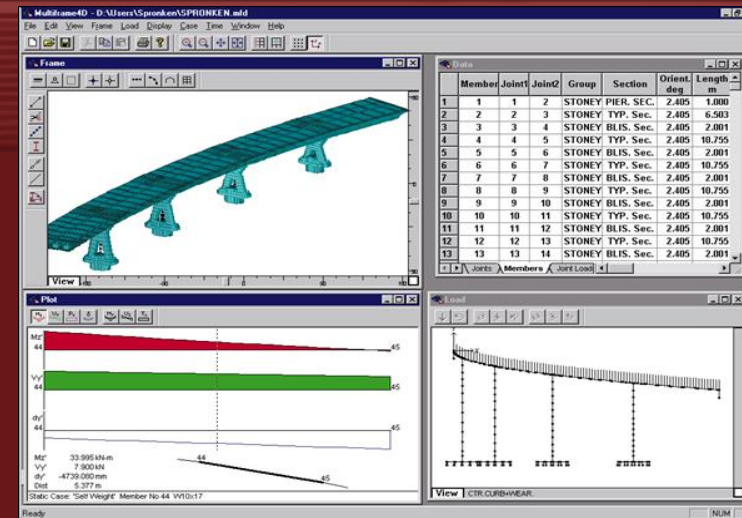
- Subdivide

- Enter proportional or absolute lengths,
other values will adapt



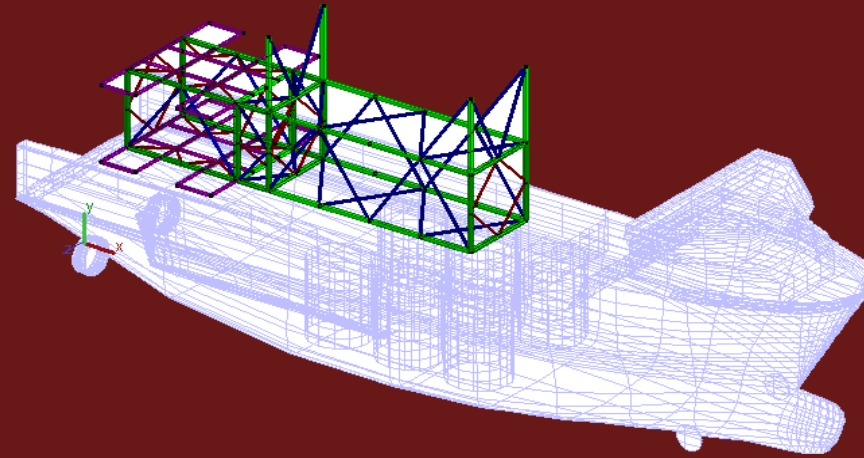
Numeric Input

- Add Node
 - Shortcut N (Version 14)
- Double click Node for coordinates
- Double click Member for length and slope
 - Slope is relative to x-z horizontal plane
 - Reverse member ends to resize from 2->1 instead of 1->2
- Node Coordinates in Data window
- Element length and slope in Data window
- Copy & paste to and from Excel
- Automation for advanced users
 - C:\Program Files\Multiframe 13\Automation Samples



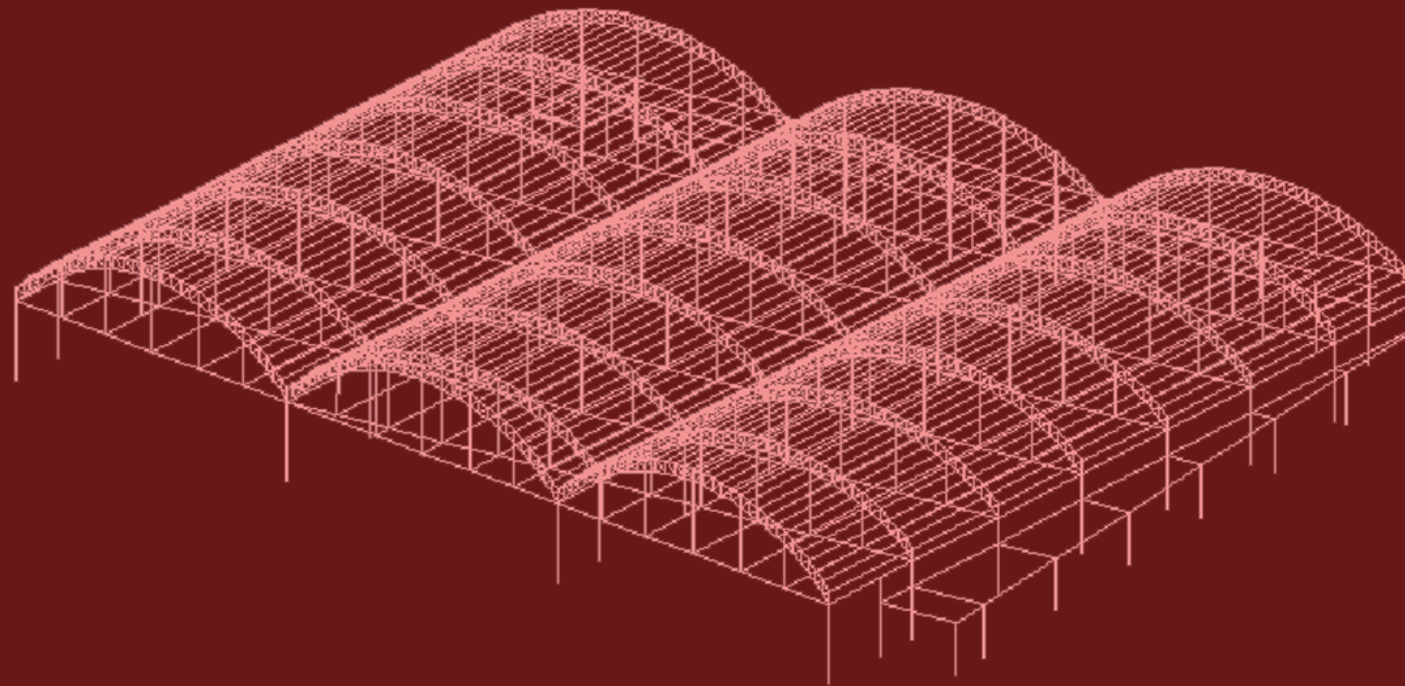
Data Import

- Multiframe sub-structure
- Neutral text file
- SDNF
- Microstran
- SpaceGass
- DXF
 - DXF from AutoCAD, Microstation etc
 - Import 2D or 3D DXF from any CAD system
 - Imports LINE, POLYLINE,ARC and FACE entities
 - Each line segment becomes a member in Multiframe
 - Make sure any BLOCKs are exploded prior to export
- Alternatively import DXF as a background image



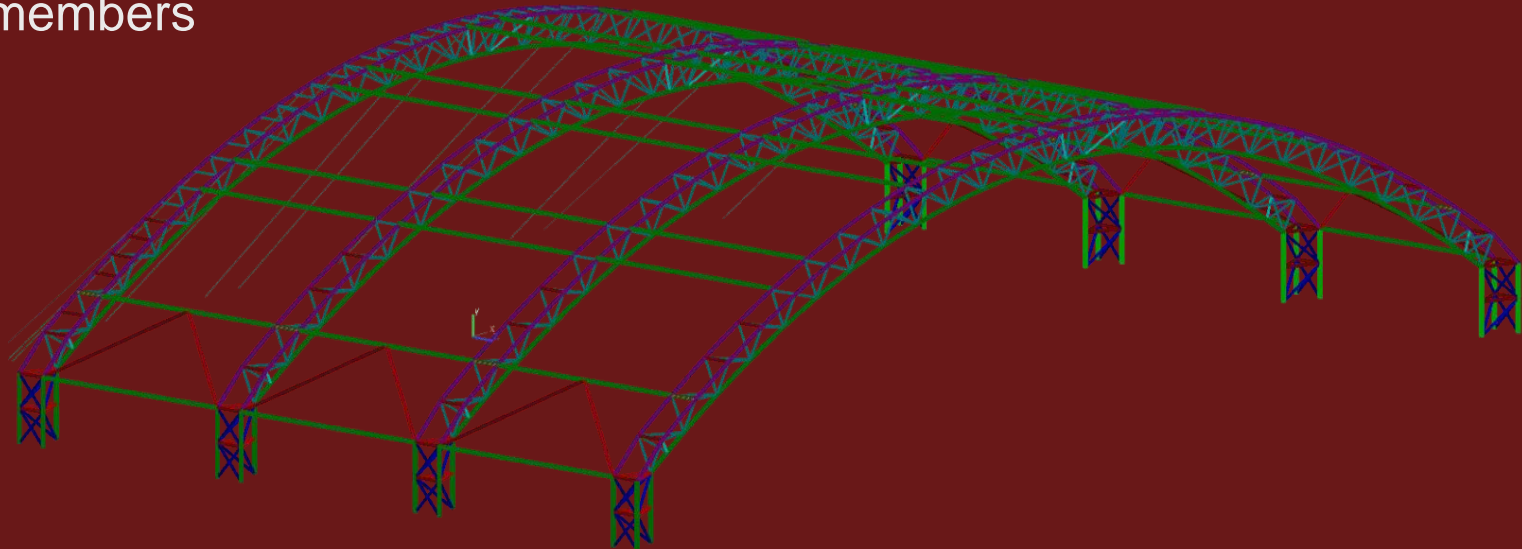
Curved Structures

- Generate Arc
- Convert Member to Arc
- Cylindrical duplicate
- Spherical Duplicate



Advanced

- Add Joint (in advanced menu \leq version 13)
- Merge close joints
- Align joints
- Merge members
- Intersect members
- Reverse member ends
- Disconnect members



Thank You

- Next Webinar: Tuesday 2nd August
- Topic: Working With Model Properties
 - Materials, sections, orientation, springs, releases, offsets
- Have a suggestion for a future webinar topic?
 - Email me: philc@formsys.com
- See you next time...