

Advanced CAD  
Applications  
for Engineers  
and Designers

4M

IntelliCAD

IDEA

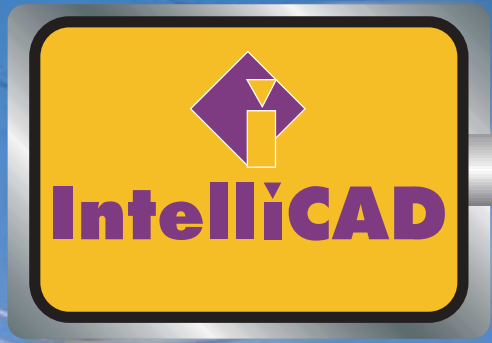
STRAD

STEEL

FINE

The Integrated Suite for Innovative Building Design





# The Alternative Solution for Professional CAD Design

**IntellicAD** is the unique alternative solution to Autocad (\*), dynamically developed through the web by the members of the ITC organization ([www.Intellicad.org](http://www.Intellicad.org)). IntellicAD is used today by many thousands of designers and engineers, who need a Professional, AutoCAD compatible, 3D CAD environment, in a very affordable price. 4M, being among the first ITC members, promotes one of the best IntellicAD versions in an International level.

**Unrivaled Autodesk AutoCAD compatibility**  
Native DWG support (Opendwg), full compatibility with AutoCAD Command Line, menu (.MNU) and script (.SCR) files, hatches, fonts and true type fonts, full AutoLISP support (including .DCL), ADS support in most applications, Raster image display, AutoCAD 3D surface commands, etc.

**Exceptional productivity**  
Multiple open drawings (MDI), ActiveX support, Drawing Explorer™ for managing layers-blocks-line types-and more, Graphical block preview, Real Time Pan & Zoom , Right-mouse click to edit properties of multiple selected entities, Script recorder, Visual customization of menus and toolbars, high quality Photorealistic 3D rendering (ray tracing)

(\* Autocad is a trademark and product of Autodesk company.



# IDEA

Integrated Architectural  
Environment

## The Smart Idea for Perfect Architectural Design

**IDEA** is a high productivity object oriented Architectural Software Package, using a true 3D building model design technology which gives unlimited freedom to the user. Based on its own autonomous, powerful and flexible CAD engine, IDEA helps the Architect to create even the most complicated designing ideas and obtain at the moment the optimal solutions, perfectly presented.

- **Advanced Architectural Synthesis Environment** based on its own autonomous CAD (embedding IntelliCAD) and a user friendly interface, adopting the most modern CAD standards and open dwg communication. IDEA user handles "elastic" objects, dynamically shaped through parametric dialog boxes, in order to achieve the best result with the minimum effort. All the 2D-3D building drawings are taken automatically with all their details.
- **Powerful Rendering Tool (PhotoIDEA)** based on the latest "ray tracing" technology for high quality photorealism.
- **Virtual Walkthrough module (WalkIDEA)** for real time "walking" through IDEA constructions. The walk can be saved in an AVI file.

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# STRAD

RC Constructions  
Design Package

# STRUDL

## Structural Analysis Workstation for RC Constructions

**STRAD** is a unique tool for Structural Analysis and Design of 3D Concrete Frames. STRAD has a friendly and autonomous 3D CAD environment, a powerful finite element analysis engine performing both static and modal (eigenvalue) analysis and a reliable design module for concrete members, highly customisable to accept parameters of the seismic code of your choice. STRAD has an advanced interface with the famous GT.STRUDL (\*) so as to perform advanced analysis options such as push over, non-linear and transient dynamic analysis.

(\*) GT.STRUDL is a registered service mark of the Georgia Tech Research Corporation, Atlanta, Georgia, USA

**Powerful and Friendly CAD Environment**, based on AutoCAD or its own autonomous CAD (embedding IntelliCAD) with common interface and dwg format in both cases. **Reliable Methodology** based on the most modern techniques and standards. Internal Finite Element Solver. Can also work with GT.STRUDL which is represented in N/E Europe by 4M. **Advanced Modelling** for the analysis of any RC Construction • 3D - Beams and Columns having rigid offsets • Circular and polygonal columns (up to 7 orthogonal parts) • Shear Walls • Inclined beams • Inclined slabs or slabs with openings • Masonry Walls • Strip Foundation Beams • Auxiliary members • Kinematic Constrains • Shell elements having 6 degrees of freedom per node • Easy to use mesh generator for shear wall and slab modelling • Subspace modals analysis • Temperature Stresses • Nodal Forces and Uniform Loading • Beam on Elastic Foundation. **High customisable concrete design** • Interactive RC member design process (back analysis) • Module for Building Retrofitting. **Final Drawings** • Produces Formwork Plan and Members Detailing Drawings in Dwg format. **STRUDL Interface** • Nonlinear Static and Dynamic Analysis • Nonlinear Springs • Geometric nonlinearity • Plastic hinges for members • Push Over Analysis • Transient Dynamic Analysis.



# STEEL

Steel Constructions  
Design Package

# STRUDL

## Structural Analysis Tool for STEEL Constructions

**STEEL** offers the most dependable and flexible solution in the Analysis and Design of Steel Structures. It offers: Space Frame Analysis & Member Design according to EC3, Simple Connections – Truss Connections, Moment Connections - Frame Connections, Drafting of Frame & Connections, and advanced interface with GT.STRUDL (\*)

**Powerful CAD Environment** • High quality interactive graphics visual interface • Fast data input and structural modelling with capabilities for making modifications easily • Capability for 3D Frame input in \*.dxf format • Generation of models from existing libraries included in the program • Use of special filters for individual member selection or group selection • Direct access to member properties of an individual member, or a group of members, which are displayed in a dialogue box • Unlimited number of members and nodes

**Reliable Methodology** • Analysis and member design using the newly developed algorithms of STEEL • Analysis of 2D and 3D Frames with dynamic response spectrum analysis (STEEL Plus) • Up to 12 user defined load cases (static – seismic – wind – snow loading, temperature stresses) • Design of frame connections • Wizard for the automatic design of welded or bolted connections of trusses • Wizard for the design of foundations and tie-beams

**Final Drawings** • High quality printing of all the required drawings as well as the design calculations • Drawing facilities (IntelliCAD is included) • Fully compatible with the most popular drawing formats (\*.dxf, \*.dwg, \*.rft, \*.doc) • On line help with analytical examples

**STRUDL Interface** • Nonlinear Static and Dynamic Analysis • Nonlinear Cable Elements • Nonlinear Springs • Tension/Compression only members • Geometric nonlinearity • Plastic hinges for members • Push Over Analysis • Transient Dynamic Analysis

(\*) GT.STRUDL is a registered service mark of the Georgia Tech Research Corporation, Atlanta, Georgia, USA

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# FINE HVAC

Integrated HVAC  
Design Tool

## Innovative Workstation for HVAC Project Design

**FINE HVAC** combines Design and Calculations in a Fully INtegrated Environment. It implements all the required Heating-Ventilation and Air Conditioning calculations directly from the drawings, producing thus automatically all the study output results: Calculation sheets, technical reports, bill of materials and costing, as well as all the final drawings (plan views, vertical diagrams, details etc) fully updated.

**Powerful CAD Environment**, based on its own autonomous CAD (embedding IntelliCAD) and a user friendly interface, adopting the most modern CAD standards and open dwg communication. FINE HVAC "thinks", suggests and implements best designing solutions (i.e. location of heating units, auto-routing for pipes and ducts) calculates and prepares the final drawings even the complex ones by using specific algorithms (i.e. transformation of an one-line air-duct system to 2D, construction of vertical diagrams directly from the plan views).

**Reliable Methodology** based on the most reliable techniques and standards, providing the user with alternative methodology options and simulation capabilities for all the package modules (heating losses, one pipe heating system, twin pipe h.s., in-floor h.s., cooling loads, fan coils, air-ducts, psychrometry)

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The logo for FINE ELEC is contained within a purple rounded rectangle with a silver border. The word "FINE" is in a large, white, sans-serif font, and "ELEC" is in a smaller, white, sans-serif font directly below it.

**FINE**  
**ELEC**

Electrical Engineering  
Design Tool

The background image shows a blurred view of an electrical substation. In the foreground, a large electrical control panel is visible, displaying various gauges and switches. In the background, a high-voltage transmission tower stands against a blue sky. The overall scene is slightly out of focus, emphasizing the digital design tool overlaid on it.

## Advanced Workstation for Electrical Installations Design

**FINE ELEC** combines Design and Calculations in a Fully INtegrated Environment, making all the required calculations for any Electrical Building Installation directly from the drawings. FINE-ELEC produces automatically all the output results: Calculation sheets, technical reports, bill of materials and costing, as well as all the final drawings (plan views, panel and block diagrams, details etc) fully updated.

**Powerful CAD Environment**, based on its own autonomous CAD (embedding IntelliCAD) and a user friendly interface, adopting the most modern CAD standards and open dwg communication. FINE ELEC designs, calculates and prepares the final drawings of any Electrical Installation (plan views, block diagram and panel drawings directly from the plan views). All symbols and line libraries are open and modifiable (dwg).

**Reliable Methodology** based on International standards. Calculations of cables, protection devices etc taking into account all the parameters (ambient temperature, cable installation method and means, permissible current in each line etc). Automatic calculation of the voltage drop in sections, branches and most malign branch. Automatic phase allocation. Analytical panel calculations (degree of protection, short circuit controls etc).

The logo for 4M consists of the letters "4M" in white, bold, sans-serif font, set against a red square background.

**4M**

A large, light gray arrow pointing to the right, positioned below the 4M logo.A large, light gray arrow pointing to the right, positioned below the text on the right side of the page.

## 5 + 1 reasons for working with 4M Vertical Applications

- ➔ Global Design based on Object Oriented Programming (OOP) philosophy, Implemented with the most advanced tools (C++ ) and a long-range software engineering technology.
- ➔ Autonomous CAD (including IntelliCAD with its user license) providing full independency from other CAD environments, but keeping the most popular CAD standards and open dwg communication.
- ➔ Work on real 3D model of the building from the beginning to the end. Unlimited freedom to create and modify, through parametric dialog boxes, due to the object structure of the building information.
- ➔ Seamless Integration between the CAD Component and the Calculations Component (for STRAD, STEEL and FINE) and Interactive Communication between drawings and spreadsheets.
- ➔ Calculation Components based on a rich and reliable methodological background, adopting the most modern techniques and standards. Results completely documented and perfectly presented.
- ➔ 4M-Suite Supports the close cooperation between the Architect, the Civil Engineer and the Mechanical Engineer, during all the stages of the Building Design process



9 Mikinon str.  
152 33 Chalandri  
Tel.: (+30) 210 6857200  
Fax: (+30) 210 6848237  
gen@4m.gr, www.4m.gr

