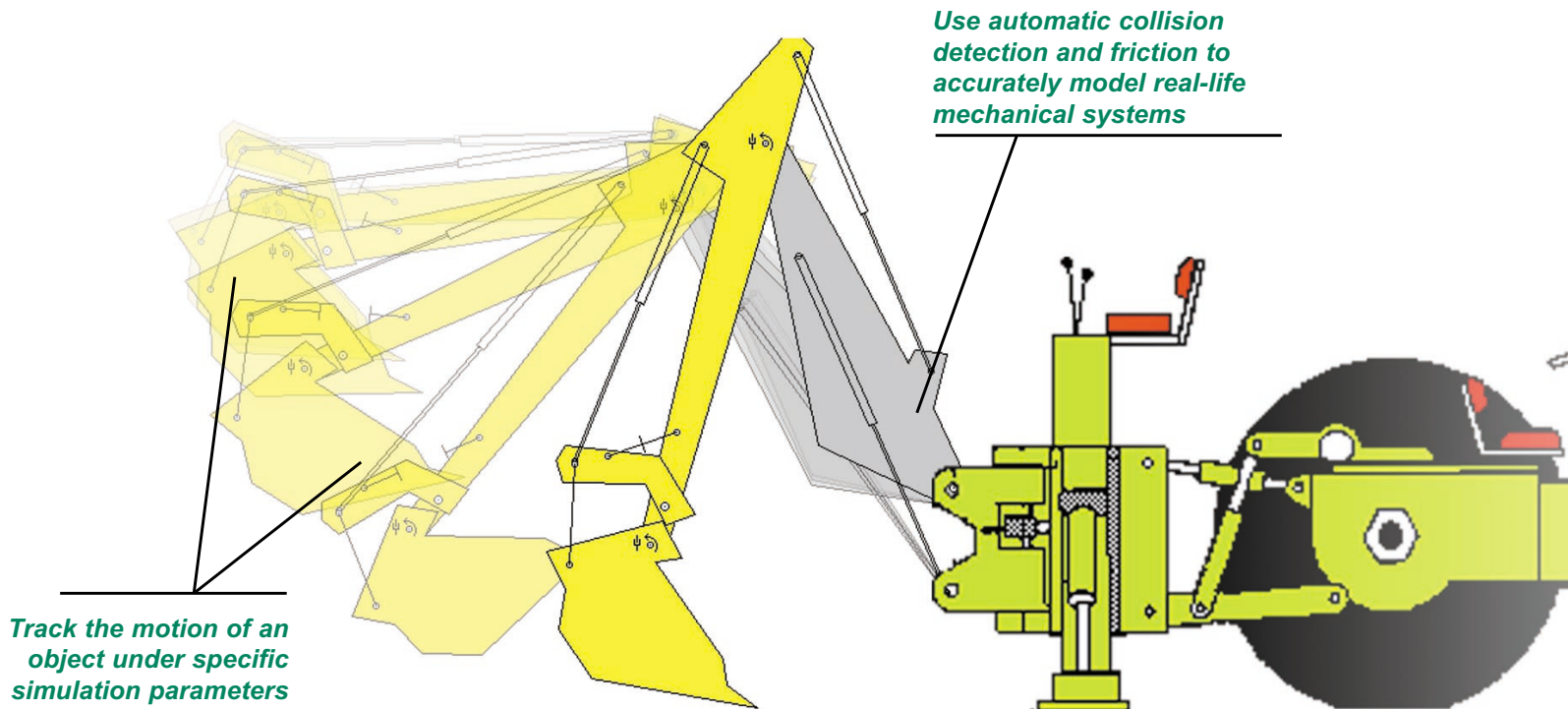
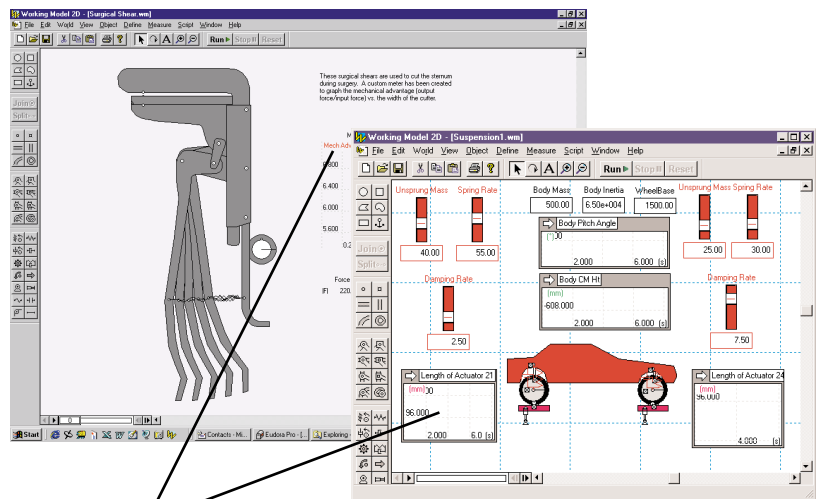


# Working Model® 2D

## The world's most popular 2D computer aided engineering tool



- Powerful physics-based 2D kinematic and dynamic motion simulation and analysis
- Provides accurate solutions to complex engineering motion simulation problems
- Save time and money by avoiding expensive prototyping and product failures



### Record and display simulation data in real-time

# Working Model 2D Features

## SUPPORTED 2D FORMAT

DXF file format

## BODY PROPERTIES & FEATURES

- Body types: circle, box, polygon and smooth (b-Spline edges)
- Mass, density, geometry, center of mass, moment of inertia, velocity and angular velocity, electrostatic charge and more
- Track the motion path of a body
- Automatic collision detection and response
- Automatically applied static and kinetic friction

## CONSTRAINTS

- Pin, rigid, slot, keyed slot and curved slot joints
- Rods, ropes, pulleys and gears
- Linear and rotational spring/damper

## MOTION DRIVERS

- Motor
- Actuator
- Force
- Torque

Constraints and drivers can be defined by numeric or equation input in the formula editor, or with tabular data.

## UNITS SYSTEMS & FORMULAS

SI, English, CGS and user-defined

## MEASURABLE PARAMETERS

- Position
- Velocity
- Acceleration
- Momentum
- Angular momentum
- Constraint force and torque
- Gravity, electrostatic and air force
- Kinetic energy, gravitational potential energy and power

Record and display simulation data in real-time with graphical and digital meters.

## SIMULATION CONTROL

Run, stop, reset, single step, or pause the simulation at any time.

Control the accuracy of your simulation by modifying integration and animation steps and configuration tolerances.

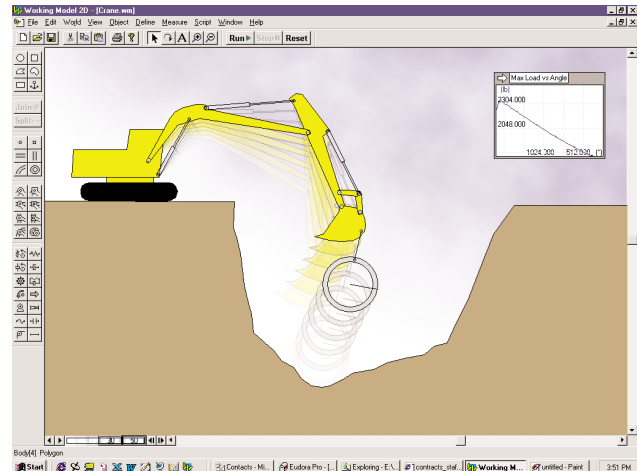
Superimpose multiple simulations.

## INTERACTIVE CONTROLS

- DDE connection to Excel and MatLab
- Complete "Visual Basic" style scripting language with built-in debugger
- Menu and script buttons
- "Player" mode for content creation

## VISUALIZATION

- Track the motion path of a body or its center of mass
- Attach graphics to bodies
- Images on bodies rotate
- Display system center of mass
- Multiple, moving reference frames



## SCRIPTS

- Optimize
- Create constraint
- Document model
- Zoom to extents
- Measure distance between points
- Flip polygon
- Multiple file run
- Pin friction
- Slot friction
- Slot damper
- Flexbeam
- Shear and bending moment

## OUTPUT

- AVI video files for playback
- Meter data from simulations to tabular data file

## PRINTING

- Print an image of your simulation or meter data

## WORKING MODEL 2D SYSTEM REQUIREMENTS

- Microsoft Windows NT® 4.0 or Windows 95/98/Me/2000/XP
- Pentium PC
- 16MB RAM Minimum
- Video card and monitor capable of at least 16-bit color
- CD-ROM Drive

### MSC Software

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