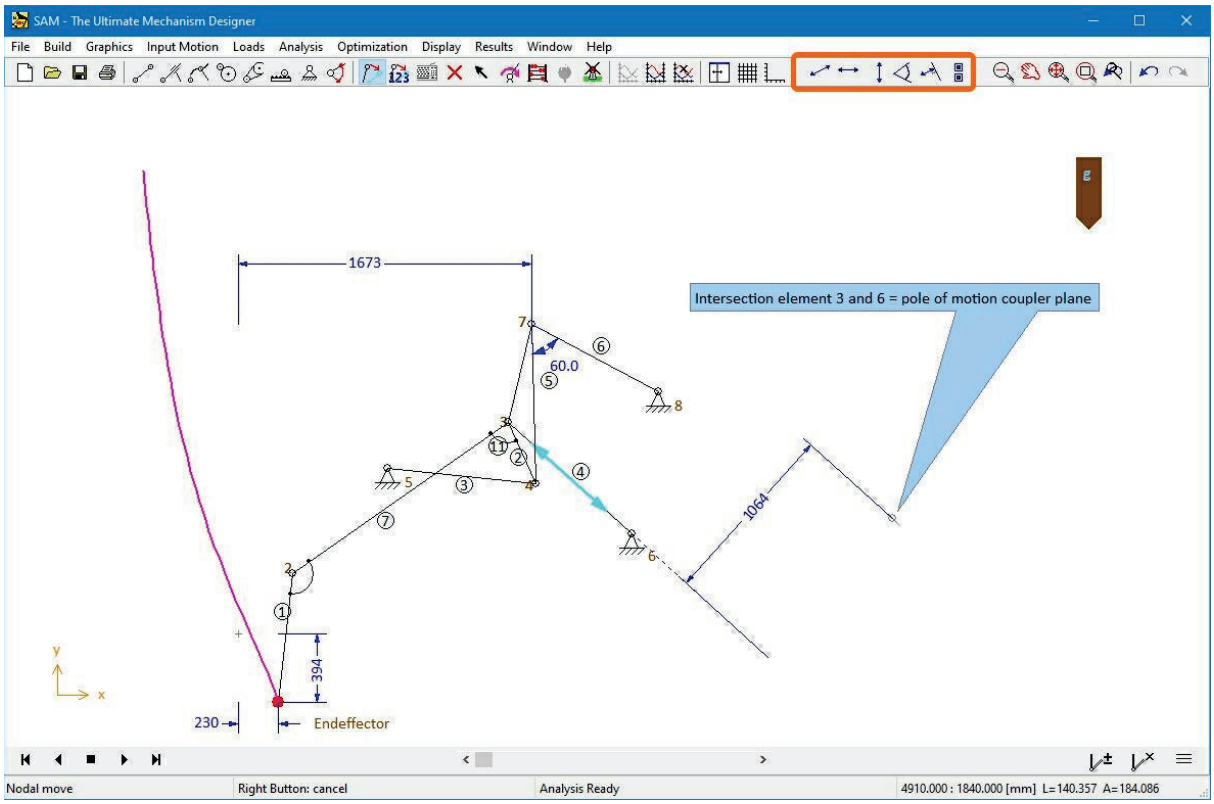
1.2 What is new in SAM 8.5

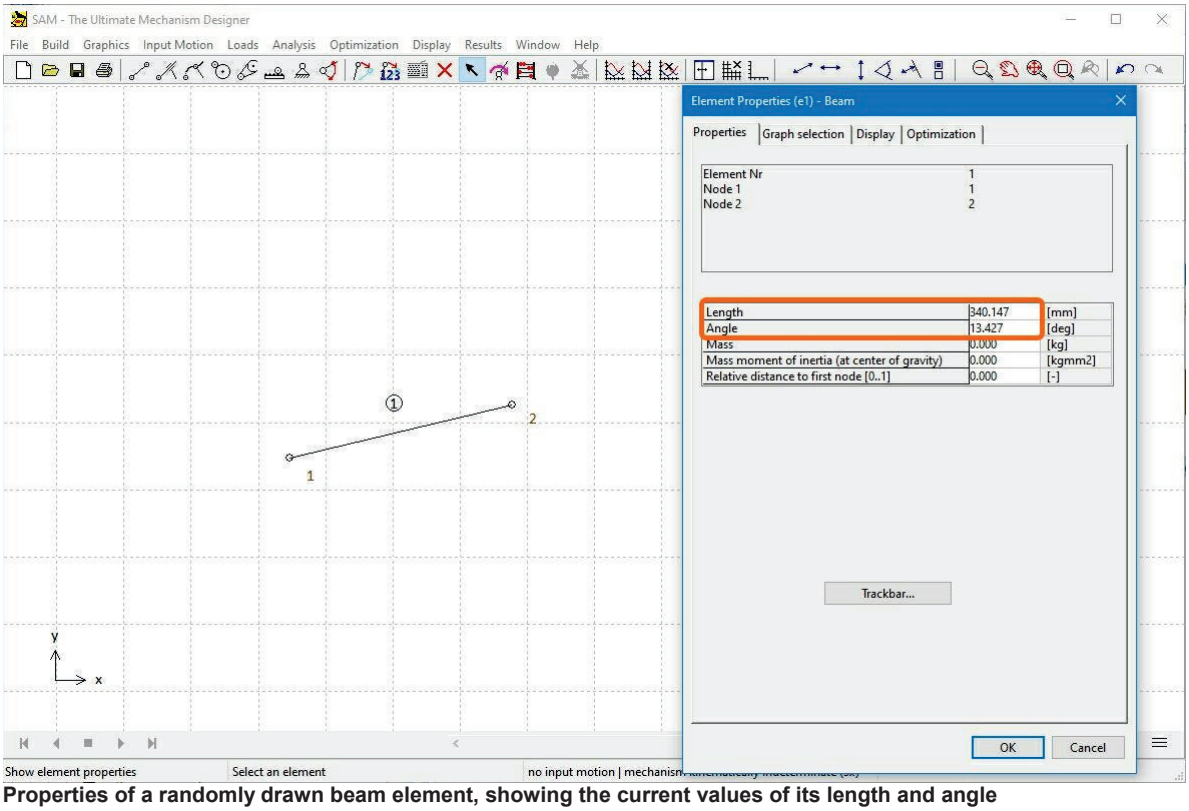
Display of distance/angle
Using the new icons in the toolbar (see red rounded rectangle), one is able to display:

- the regular, horizontal or vertical distance between two nodes/point (incl. dynamically created points such as the intersection of elements/lines)
- the angle between two elements/lines
- the distance between a node/point and an element/line



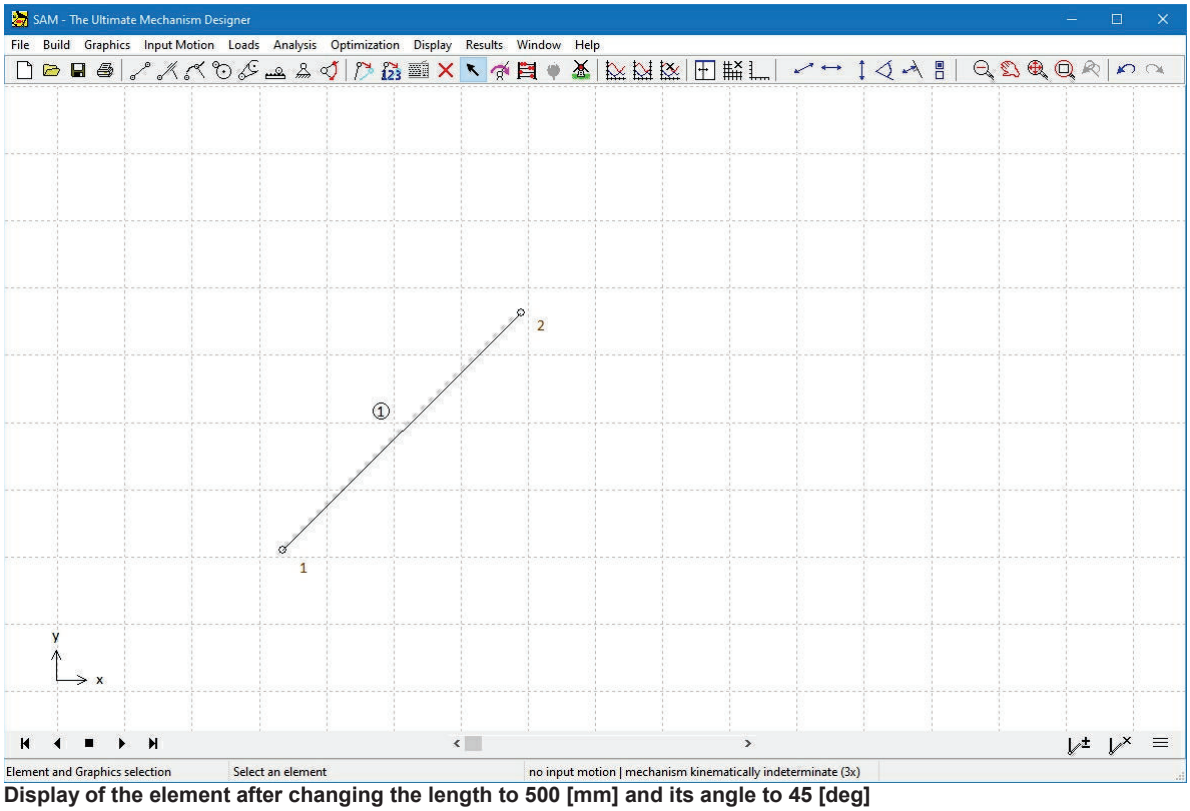
Example showing various options of the new distance/angle display functionality.

Adaptation of element length/angle
In any phase of the mechanism creation process, the length or angle of a beam/slider element can be edited, as shown in the example below.



Properties of a randomly drawn beam element, showing the current values of its length and angle

Changing the value of the length to 500 [mm] and the angle to 45 [deg} will, after having pressed OK, show the following result.



Display of the element after changing the length to 500 [mm] and its angle to 45 [deg]

As one can see, the location of node 1 has changed during the adaptation process. If that is not desirable a x/y fixation can be applied to node 1 prior to making the adaptation.

1.3 About this User's Guide

Chapter 1: Preface gives an overview of the manual and contains the purchase agreement.

Chapter 2: Overview gives you some background information about SAM, its capabilities and plans for the future.

Chapter 3: System Requirements & Installation contains information about system requirements and the installation procedure.

Chapter 4: A Guided Tour shows how to run an existing mechanism project and explains how to create your own mechanism and how to perform a complete analysis cycle, starting from scratch and showing all steps from mechanism definition up to customizing of graphs.

Chapter 5: Design Wizard gives an overview of the automatic generation of mechanisms using the easy-to-use Design Wizards.

Chapter 6: Modeling Considerations discusses a number of the more delicate modeling issues.

Chapter 7: Kinetostatics is about quasi static force analysis, definition of external forces and bearing forces.

Chapter 8: Optimization explains the various optimization possibilities.