

The **TOMLAB /KNITRO** toolbox efficiently integrates the industry-standard sparse mixed-integer nonlinear interior point and active-set solver KNITRO with TOMLAB.

KNITRO implements a novel algorithm for nonlinear programming. The algorithm belongs to the class of interior (or barrier) methods, and uses trust regions to promote convergence. A state-of-the-art active-set solver is also included in the package. MINLP problems are also supported by branch and bound as well as a hybrid Quesada-Grossman.



Main Features

- Efficient handling of MATLAB sparse arrays.
- Three algorithmic options; Interior/Direct, Interior/CG and Active-set SLQP.
- Feasible version included with both interior-point methods.
- Several options for memory-limited Hessian.
- KNITRO may be used as sub problem solver for other TOMLAB solvers.
- KNITRO optionally estimates derivatives internally, and can also perform gradient checking.
- Second derivatives are used if given.
- Multistart features included for global optimization.
- Supports equilibrium constraints (MPEC problems).
- Solves mixed-integer linear, quadratic and nonlinear problems.

For more information about TOMLAB /KNITRO see the [TOMLAB /KNITRO User's Guide](#).

For user's guides to all TOMLAB products see the [Manual section](#).