KNITRO®

Fast. Powerful. Reliable.

13.2

The most advanced solver for nonlinear optimization

Think one step ahead
and let Artelys Knitro be your competitive advantage!

The optimization techniques used by Artelys Knitro offer the leading combination of computational efficiency and robustness. Artelys Knitro is the only nonlinear solver with seven different algorithms, allowing it to solve a large range of complex nonlinear problems.

Key features

- Efficient and robust solution on large scale problems
- Two interior-point/barrier and two active-set/SQP algorithms
- Three algorithms for mixed-integer nonlinear optimization
- Heuristics, cutting planes, branching rules for MINLP
- Parallel multistart feature for global optimization
- Ability to run multiple algorithms concurrently
- Automatic and parallel tuning of option settings
- Automatic computation of approximate first-order and second-order derivatives
- Smart initialization strategies and fast infeasibility detection

New Artelys Knitro 13.2 features

- Presolve refinement including bound tightening and redundant constraints selection
- **Improved cut generation** and selection strategy
- New automatic strategies for cut selection
- Performance improvement on Apple Silicon
- **Improved multi-start heuristics** for non-convex mixed integer problems
- General performance and robustness improvement on NLP and MINLP

Problem classes solved by Artelys Knitro

System of nonlinear equations

Linear problems (LP/MIP)

Quadratic problems (QP/QCQP/MIQP/MIQCQP)

Second-order cone programs (SOCP/MISOCP)

General nonlinear problems (NLP/MINLP)

Linear and nonlinear regression

Derivative-free optimization (DFO)

Non smooth optimization

Least square problems (LSQ)

Mathematical programs with complementarity constraints (MPEC/MPCC)

Want to learn more about Artelys Knitro applications? Check out our use-cases

Different types of licenses
that meet and adapt to your needs

Single-User Computer

Allows one designated user to run any number of processes on one designated computer.

Server License

Allows the product to be run by any user of simultaneous processes, on one designated computer with a pre-determined number of processors.

Floating License

Each floating license allows one process at a time to be activated on any computer in a designated local network.

Project License Agreement

The PLA is a broad license agreement for internal use of Artelys Knitro within a given project or application.

Deployment License Agreement

The DLA is a broad license agreement for embedding Artelys Knitro within a large product and reselling it as part of this product.

Organization wide-license

Allows the product to be used by any number of users on any number of servers within an organization.

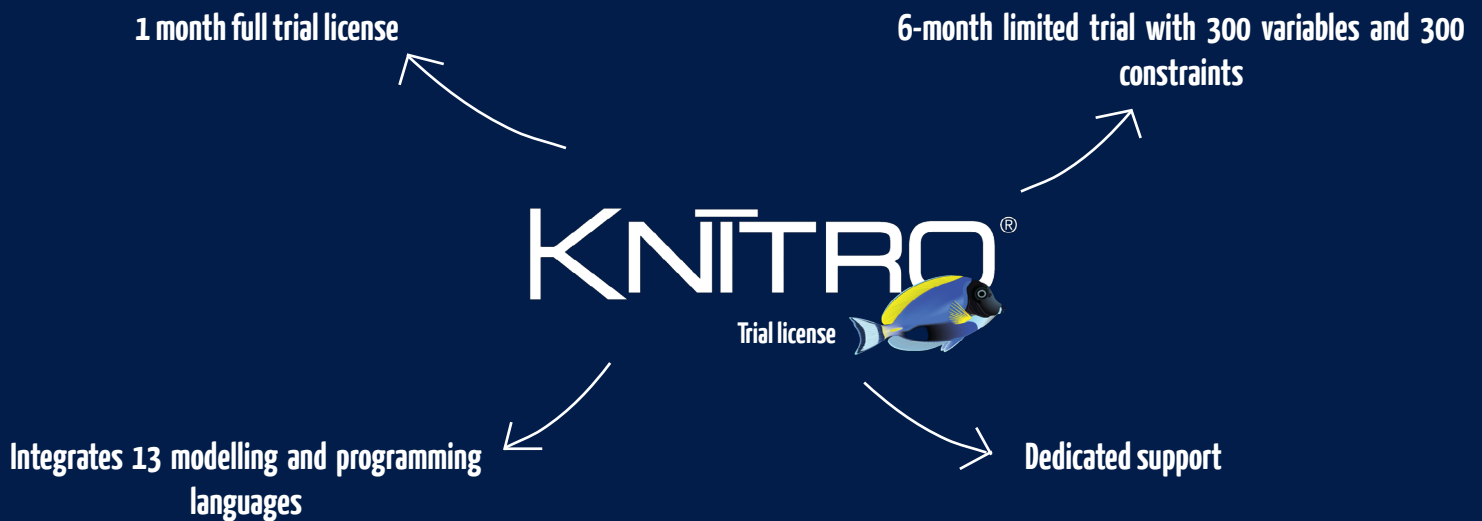## Modeling systems and programing interfaces

Operating systems

Do not wait to download
your <u>free trial</u>

1 month full trial license

6-month limited trial with 300 variables and 300 constraints

KNITRO®

Trial license

Integrates 13 modelling and programming languages

Dedicated support

<u>Online Artelys Knitro documentation</u>

Any inquiry?

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