

Optimization Software Products and Services From Pinter Consulting Services & Partners

Summary

The development and solution of nonlinear decision models is important in many areas of the sciences, engineering, and economics. Global optimization is aimed at finding the best possible solution of nonlinear models, in the presence of multiple local optima. Pinter Consulting Services, Inc. (PCS) specializes in the development of advanced nonlinear – both global and local – optimization methodology, software, and related services. Our software products are based on award-winning research: they can effectively assist engineers and scientists to develop and solve their optimization models. Product implementations are available for a broad range of compilers, for prominent optimization modeling languages, and for integrated scientific-technical computing systems. These software products are used worldwide: an illustrative client list (that currently includes about 400 industrial, government, research and academic organizations) is available upon request. We also offer consulting services, intensive courses and workshops, and participate in custom application development projects.

Software Implementations (listed in order of release)

- ❖ **LGO Solver Suite** – our core product, recommended for applications as the solver component of stand-alone (custom) decision support software. For use with a range of C/C++ and Fortran compilers. See www.pinterconsulting.com, and contact us.
- ❖ **LGO Integrated Development Environment** – LGO embedded into an MS Windows GUI. See www.pinterconsulting.com, and contact us.
- ❖ **GAMS/LGO** – developed in cooperation with the GAMS Development Corporation; available at www.gams.com.
- ❖ **MathOptimizer** – a native *Mathematica* solver developed in cooperation with Frank Kampas, PhD; distributed by PCS and by Wolfram Research (www.wolfram.com).
- ❖ **MathOptimizer Professional** – *Mathematica*/LGO implementation developed in cooperation with Frank Kampas, PhD; distributed by PCS and Wolfram Research.
- ❖ **TOMLAB/LGO** – developed in cooperation with TOMLAB Optimization for MATLAB; available at www.tomopt.com
- ❖ **Global Optimization Toolbox for Maple** – Maple/LGO implementation developed in cooperation with Maplesoft; available at www.maplesoft.com.
- ❖ **MPL/LGO** – developed in cooperation with Maximal Software; available at www.maximal-usa.com.
- ❖ **AIMMS/LGO** – developed in cooperation with Paragon Decision Technology; available at www.aimms.com.
- ❖ **AMPL/LGO** – developed in cooperation with AMPL LLC (www.ampl.com); available from PCS.
- ❖ **Excel-LGO** – a direct solver link to Excel, developed in cooperation with Frank Kampas, PhD and Baris Cem Sal, BEng; distributed by PCS
- ❖ **MATLAB/LGO** – a direct solver link to MATLAB, developed in cooperation with Frank Kampas, PhD and Baris Cem Sal, BEng; distributed by PCS

All of our software products are directly available for personal computers running under MS Windows operating systems. Most of these products are also implemented – or can be made available – across all major hardware and operating system platforms.

Please see next page

All software products are accompanied by technical documentation and ready-to-use examples, and are fully supported in cooperation with our developer partners (as applicable).

Individual, group, campus and site licenses are available for all listed products. Educational and non-profit research discounts are also offered. Size limited free demo software versions are available for education and for non-profit research upon request, both for LGO itself and for several of the modeling environments listed. Please contact us or our corresponding partners for details.

Additional algorithm implementations and custom development are in progress. We are interested to hear suggestions regarding future development directions. Test problems are welcome; we also offer illustrative solutions to qualifying prospects.

Application Areas

Nonlinear systems modeling and optimization are needed in numerous areas of applied mathematics, physics, chemistry, biology, environmental, medical and pharmaceutical research, engineering, econometrics and finances. An extensive collection of illustrative case studies and peer-reviewed publications are available upon request: please see the list of publications at www.pinterconsulting.com and contact us.

Further Information

János D. Pintér, PhD, DSc – the principal developer of LGO – has over three decades of experience in the area of nonlinear systems modeling and optimization. Dr. Pintér has been working extensively worldwide, in interdisciplinary team environments.

For more information, please contact:

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Please visit also the websites of our developer partners for detailed technical information: direct links are available from www.pinterconsulting.com.

Illustrative References

- Pintér, J.D. (1996) *Global Optimization in Action*. Kluwer Academic Publishers, Dordrecht.
- Pintér, J.D. (2001) *Computational Global Optimization in Nonlinear Systems: An Interactive Tutorial*. Lionheart Publishing, Marietta, GA. Available in both printed and electronic format.
- Pintér, J.D. (2002) Global Optimization: Software, Test Problems, and Applications. In: Pardalos and Romeijn, Editors, *Handbook of Global Optimization, Volume 2*, pp. 515-569. Kluwer Academic Publishers, Dordrecht.
- Pintér, J.D. (2005) Nonlinear Optimization in Modeling Environments: Software Implementations for Compilers, Spreadsheets, Modeling Languages, and Integrated Computing Systems. In: Jeyakumar and Rubinov, Editors, *Continuous Optimization: Current Trends and Applications*, pp. 147-173. Springer Science, New York.
- Pintér, J.D. (Editor) (2006) *Global Optimization: Selected Case Studies*. Springer Science, New York.
- Pintér, J.D. (2006) *Global Optimization with Maple*. (An interactive electronic book) Distributed by PCS and Maplesoft.

Further book projects (contracted by international publishers) are in progress.