

NAG Overview

AG Teratec - 10 October 2019

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Experts in numerical software and
High Performance Computing

The Numerical Algorithms Group Ltd (NAG)

- ▶ Experts in **Numerical Computation** and **High Performance Computing**
- ▶ Founded in 1970 as a multi-site academic project based in Nottingham
- ▶ Since 1976, operates as a commercial, not-for-profit organization
 - Funded entirely by customer income
 - Turnover (2017/18) £8.4M
 - 70 employees
- ▶ Based in UK, subsidiaries in US and Japan, remote staff in France and Germany
- ▶ Over 3,000 customer sites worldwide
- ▶ Main vertical market sectors: Technical Industries, Finance, Oil & Gas, Manufacturing
- ▶ Significant business with hardware vendors (AMD, ARM, Intel, ...) and ISVs

NAG Imperatives

▶ How is NAG different, as a not-for-profit organisation?

- No financial ownership: all profits are used to pursue our imperatives to the benefit of our customers and collaborators
- NAG constitution means NAG (effectively) can't be sold:
 - “perpetual company”
- Longer term planning horizon

▶ Mission Driven

- Help customers achieve better solutions to difficult problems in technical computing
- Create the next generation of practitioners in our community

Wide range of products and services

- ▶ NAG Library
- ▶ NAG Fortran Compiler
- ▶ dco tools for Algorithmic Differentiation
- ▶ Origami, grid/cloud execution framework
- ▶ Numerical expertise
- ▶ Code modernization and parallelization
- ▶ Technology evaluation and benchmarking
- ▶ HPC advice and procurement assistance

NAG Technology Innovation

- ▶ Long history of collaboration with the world's leading scientists and engineers across academia, government research and industry
- ▶ Examples of ongoing collaboration are:
 - working with mathematicians and statisticians across the globe to produce the best / most competitive algorithms for the NAG Library
 - currently funding collaborative projects with Universities of Lancaster, Manchester, Oxford, Sheffield and Warwick
 - innovating by working with RWTH Aachen University to deliver Algorithmic Differentiation solutions to technical industries and financial services
 - playing a leading role in the POP2 Centre of Excellence (H2020)
 - part of POEMA Marie-Curie ITN

NAG Community Involvement

▶ Active participation in standardisation initiatives:

- Fortran
- W3C/MathML
- OpenSFS
- BLAS & LAPACK

▶ Working with schools and universities to promote careers in Science, Technology, Engineering and Mathematics

▶ Promoting diversity

- First industrial chapter of Women in HPC

Experts in High Performance Computing, Algorithms and Numerical Software Engineering

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