

CASE BRIEFS

Automotive finance firm looking to optimize loan offers

An automotive finance company required an application for validating and optimizing loan terms and suggesting alternative terms. NAG provided its robust numerical components with additional VBA code to deliver an Excel-based solution.

A Financial Services company, that employs 3,300 associates with managed assets in excess of \$80 billion, was looking to implement a finance optimization solution. The company provided retail and wholesale financing, retail leasing, vehicle protection plans and other similar financial services.

One of its wholesale finance products involves individual motor dealerships gathering customer details for prospective car loans. The dealers then put together a possible finance package and then pass all the information to the central office for processing.

NAG helped by developing techniques, for optimization with constraints, as part of a new back-end process to find the best finance package that would meet various internal criteria. NAG routines for finding roots of transcendental equations were used as part of the solution.

NAG also worked with the client to provide an Excel interface to access the advanced optimization algorithms provided for this project.

At the end of the work the client had a specification for a new system that they could use to enable dealers to return prospective customer data to the central office together with a simple initial model proposal. The central service could then run optimization algorithms on the initial model and respond to the dealer with an 'accept or refuse' answer. Alternative acceptable finance packages/products could also be provided for the dealer to discuss with the prospective car loan purchaser.

