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5AT Group releases Feasibility Study on the formation of a Company to design and develop "second generation" steam locomotives starting with an advanced technology 5AT demonstrator locomotive to haul cruise and charter trains.

The 5AT Project aims to develop the first totally new design of main-line steam locomotive since the 1950s to demonstrate the capabilities of "Second Generation Steam" (SGS) locomotives. SGS locomotives differ from earlier designs by incorporating advances made in steam locomotive technology in the latter half of the 20th Century.

The proposed Class 5AT locomotive is the brainchild of British engineer David Wardale who has adopted the design principles and methodologies developed by the brilliant Argentinean engineer Livio Dante Porta who, until his death in 2003, carried forward the scientific approach to steam locomotive design pioneered by legendary French steam locomotive engineer André Chapelon.

In the early 1980s Wardale gained worldwide attention when he incorporated some of Porta's ideas into the rebuilding of a South African Class 25 locomotive. In so doing he achieved significant reductions in fuel and water consumption and an increase in power output.

Wardale's 5AT, which is being designed to haul excursion and cruise trains over modern main line European networks, will be the first totally new main line design to incorporate Porta's innovative and proven technology. The locomotive, which has a 4-6-0 wheel arrangement, is similar in format to the ex British Railways Class 5MT engines but is a totally new 21st Century design. Its power capacity will be approximately double that of the BR 5MT, thermal efficiency some 80% higher, and its range on a tender full of water will be over 250% of that of the older design.

The 5AT Group, the driving force behind the 5AT Project, comprises professional engineers and other professionals from several continents. Over the past few years the Group has been concentrating on undertaking the necessary background work to quantify what resources are needed to develop new steam locomotive designs for the 21st Century using the latest design and manufacturing technology.

The work has culminated in the production of a Feasibility Study which reviews the feasibility of setting up a Company to develop SGS Locomotives. This study investigates the engineering, project and commercial feasibility of producing a 5AT demonstrator locomotive and subsequently other SGS locomotive designs for volume production.

A considerable amount of background engineering work has been undertaken in order to obtain reliable estimates for the work involved and the resources needed for the development, building and testing of the 5AT demonstrator locomotive and the cost of setting up and then running the development company during the development of the 5AT. Projections of the sales volumes needed for the company to become profitable have also been made.

It is envisaged that the development of the initial 5AT demonstrator locomotive would require around 670 engineer months of effort and cost approximately £10.5 million to complete up to formal acceptance to run the locomotive on the main line. This would take an estimated elapsed time of 4 years to achieve assuming that sufficient finance was found for the work to continue without interruption.

The Feasibility Study is backed up by 16 Appendices which contain the detail of the work undertaken to produce the study. The Feasibility Study is available on request via the 5AT website at www.5at.co.uk. Copies of the Appendices can also be made available to parties expressing a serious interest in exploring the possibilities of forming an SGS Locomotive Development Company.

With the completion of the Feasibility Study the 5AT Group now intends to focus on facilitating the formation of the SGS Locomotive Development Company and assisting in raising finance for it.

It is hoped that the 5AT project will spark a renewal of interest in steam locomotive technology, inspire and train a new generation of steam locomotive designers and form the foundation for its ongoing development.

Enquiries: please send any enquiries regarding this press release to info@5at.co.uk