Q: Does the simulation based characterization workflow work with other 3D CFD tools?
A: The automated simulation based characterization workflow is implemented in FloEFD and FloMASTER.

Q: Is there a limit to the number of arms that can be used?
A: FloMASTER’s N-Arm component can have up to 60 arms. However the limit will be set by the computation time required in FloEFD to characterise the multi arm geometry. The more arms, and/or the more extensive the characterization extents, the more computational experiments will be required for accurate response surface fits.

Q: What happens if the N-Arm component operates outside of its characterization extents?
A: A warning message will be issued in FloMASTER. Results accuracy cannot be guaranteed under such out of range situations.

Q: Are there any software pre-requisites other than FloMASTER and FloEFD for n-arm component to work?
A: A Visual Studio C++ compiler is required, though this pre-requisite will be removed in subsequent releases of FloMASTER.

Q: You spoke about Monte Carlo? Is there Monte Carlo Model in this FloEFD Version?
A: This version of FloEFD (16 onwards) has a design of experiments capability. This supports a user defined number of computational experiments to be created, randomly but equally distributed over the design exploration space.

Q: What training is available for these simulations: Tutorials and courses?
A: This is available on request. Please contact your local sales and support office for more information.

Q: How are flow reversals handled? CFD usually requires a defined flow direction on its boundary conditions.
A: For inflowing flow boundary conditions in FloEFD, if a negative value is used as part of the characterization extents, FloEFD will automatically change the boundary condition to an outflowing type for those computation experiments that have such negative flow values set as part of the design of experiments variation.

Q: How this software is effective for locomotives and engine components?
A: Yes, particularly for cooling, fuel and lubrication systems.

Q: What is MCAD?

Q: How about the meshing software?
A: FloEFD has a unique fully incorporated octree based meshing system.

Q: What about phase change analysis?
A: FloEFD can handle phase change, especially in terms of condensation and evaporation to/from surfaces.
Q: Is the error computed in RSM computation based on any relationship?
A: The error is a measure of the average distance between the solved for points and the response surface.

Q: How about the errors compared to the realistic problem?
A: The errors relate to the difference in dP between the solved for points and the response surface. The resulting error in predicted N-Arm flow rate will be substantially less.

Q: Is FloEFD suitable to turbomachinery applications? (Rotating systems, rotational periodic BC, etc..)
A: Yes, especially in terms of 2 rotation geometry models. A pressure averaged approach at the rotating interface, applicable for steady state applications and a transient rotating mesh approach for more explicit modelling of rotating geometry.

Q: What about turbulence model in FloEFD?
A: A specific implementation of the k-ε 2 equation turbulence model

Q: What are the software requirements to install the software?
A: Windows support only.

Q: Does FloMASTER have the capability of simulating gas turbine cooled turbine flow network or cooled turbine blades internal and external heat transfer?
A: As a 1D code there is a capability to model secondary air and lubrication in the current iteration of Flowmaster.

Q: Is this software a revised or related version of FLOWMASTER2 in the simulation software industry?
A: Yes, Flowmaster2 is the old name for Flowmaster version 6. Since then there has been many years of development and research building on FLOWMASTER2 put into the FloMASTER V8 release.

Q: Is this software capable of performing air conditioning loop? Is it capable of performing heat pump circuit simulation?
A: Yes Air conditioning can be modelled in FloMASTER along with other automotive systems such as VTMS and cabin comfort scenarios

Q: Can you convert the software into a spreadsheet Excel version? Would that be more user-friendly?
A: New in V8 there is the excel automation wizard which will take your FloMASTER experiments out into excel allowing you to drive FloMASTER from the familiar interface. There is also a fully customisable COM API which will allow you to do much more.