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To:	All Surveyors/Auditors
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Subject:	Hydrodynamic Optimization of Ship Hulls
Reference:	CONARINA Training

Hydrodynamic Optimization of Ship Hulls

Still water resistance has been the traditional way of optimizing ship hulls since the time of William Froude. In the last few years, hydrodynamic optimization of hulls has been carried out with consideration to their operating profiles as opposed to design condition alone. However, ships sail in waves most of the time, so how can the resistance of the hull in waves be improved?

The answer is positive: the potential, especially in short waves, is far from being negligible.

On the other hand, optimization for minimization of added resistance in waves is far from trivial, due to the difficulty of quantifying the results and of the large uncertainty involved in the simulations (or model tests). Moreover, unlike still water optimization, which is currently highly automated, the same cannot be done for wave-added resistance optimization due to the prohibitive computational cost. As a result, human interaction and experience are paramount.

REFERENCES:

- CONARINA Training

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kindest Regards,
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