SUMMARY

Maritime transport has grown significantly on the Baltic Sea over recent years, which has increased the concern for the maritime safety. Finnish Maritime Administration (FMA) has started a fairway development programme for 2007 – 2016 [1] to ensure transport capacity, as well as the safety and quality of maritime services of the coastal and inland waterways. Consequently, the maintenance costs are predicted to grow and therefore FMA has put more effort on utilizing computer modelling to assist cost-efficient fairway maintenance and construction. The research objectives were to implement computational models for analyzing radar reflectors’ properties, to design a common radar reflector prototype that would be easily scalable to different sizes of Aids to Navigation (AtoNs), and to develop an analysis process to assist fairway planning.