



## ICELANDIC COAST GUARD

**Vessel monitoring systems used simultaneously for SAR and fisheries management**

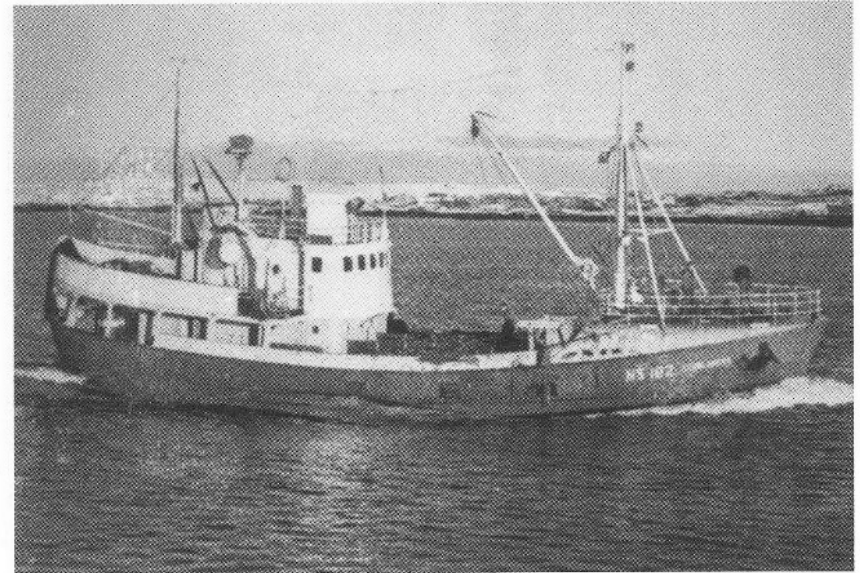
**Ásgrímur L. Ásgrímsson**  
**Chief of operations**



# Stuðlaberg NS 102

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- Built 1960
- Perished in February 1962 with 11 crewmembers off Reykjanes peninsula
- Was on a voyage from Vestmannaeyjar islands to Keflavík
- No monitoring system or emergency alarm system in place
- The ship was not missed until after 5 days although there were number of indications
- The indications were with number of persons but not at one place



**Stuðlaberg NS 102 TFSY**

Sm. í Noregi 1960. Stál. 152 brl. 400 ha. MWM díesel vél.  
Eig. Hlutafélagið Berg, Seyðisfirði, frá 31. okt. 1960.  
Skiptið fórst vestur af Hvalsnesi 18. feb. 1962 með allri áhöfn, 11 mönnum.



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# The Icelandic Mandatory Vessel Reporting System



- Established in 1968
- Decided to make the National Life-Saving Association (NLAI) responsible for the operation
- Coast Guard deliberately kept outside
- National Telecom Coastal radio stations key players
- Vessels reported when leaving and entering harbour
- Vessels reported twice a day while underway or fishing
- Coastal radio stations received the reports and relayed to the centre in Reykjavik
- Centre kept a central record log
  - All done manually





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# The Icelandic Mandatory Vessel Reporting System



- **When report was missing then process was started**
  - Coastal stations try to radio vessel
  - Nearby vessels radioed and asked to relay
  - Harbour masters asked to search ports
  - Vessel owners and family members contacted
  - Government long wave radio broadcast
  - Nearby ships asked to search
  - Coast Guard and other rescue organizations alerted
- **Always someone who did not want to participate in the system**
- **Always some carelessness regarding participation in the system**
- **Law and regulations behind the system but NLA not with legal authority to file charges**

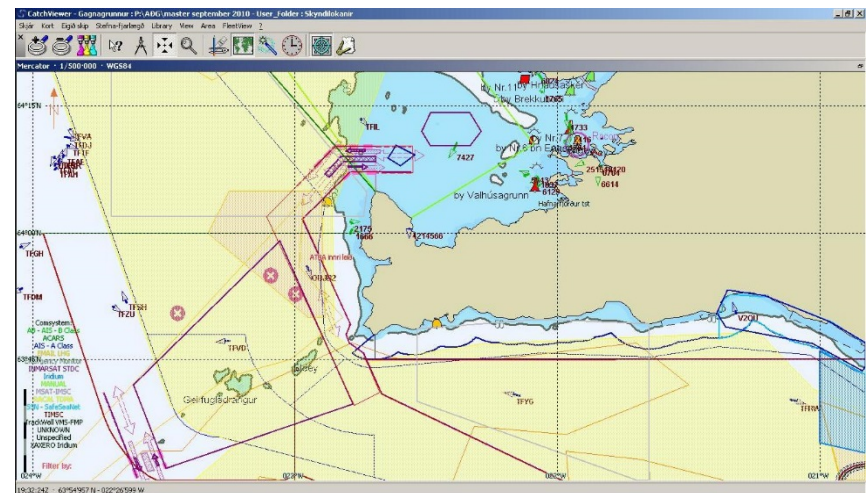




# Developments

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- Not much development for 30 years except receiving centre computerized in 1980's
- Communication improvements
  - NMT telephone system
  - Satellite systems
- Trials for automated system in late 1990's
- Decided to set up RACAL system based on VHF technology for near shore
- Inmarsat-C for off shore
- 24 m and above with Inmarsat-C
  - Two messages each 24 hours
- 6 m up to 24 m with Racal system
  - 4 messages each hour
- Boxes made around harbours for automatic departure and entry messages



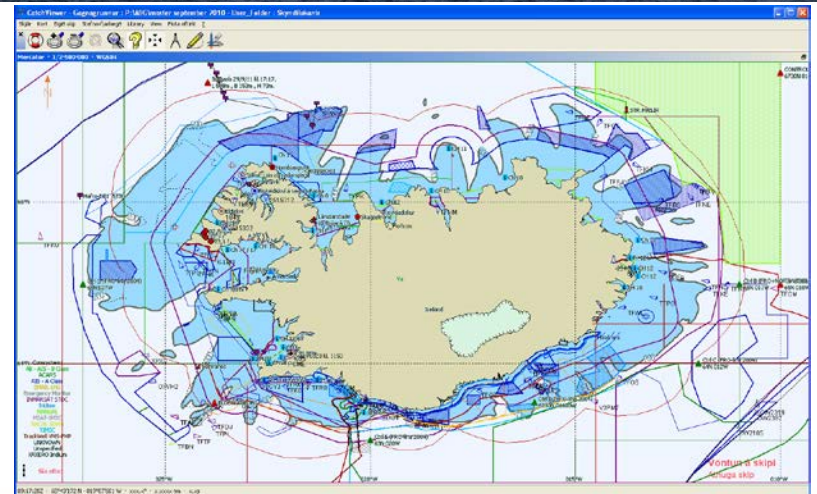


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# Redundancy



- Requirement for fisheries management system late 1990's and a FMC
- Set up within the Icelandic Coast Guard operation centre and MRCC
- Foreign flag fishing vessels and Icelandic vessels participating in NEAFC fisheries
- Two centres running simultaneously
  - Using identical hardware and software
  - Requiring messages from same vessels in many cases
- Coastal radio stations automated and remotely operated from one centre in Reykjavík



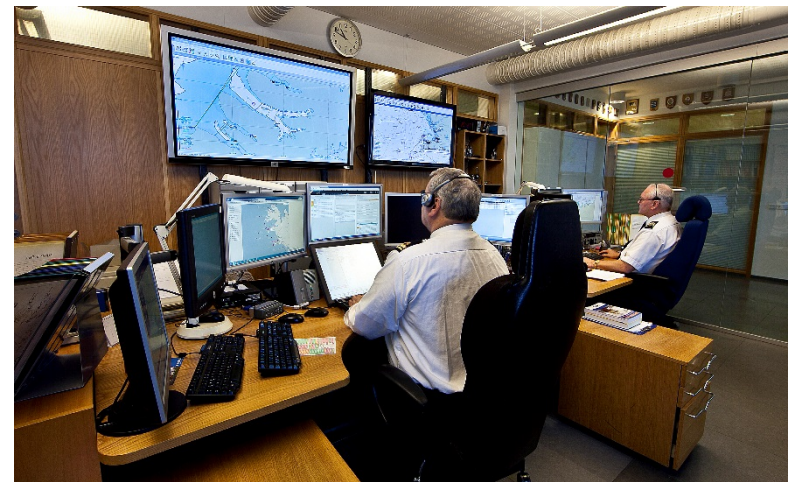


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# Single point of contact



- **Vessel Traffic Centre established in 2004**
  - Safety monitoring of all commercial vessels above 6 m
  - Operation of coastal radio system
  - Implementation of various EMSA reporting
- **Merged with Icelandic Coast Guard (ICG) operation centre**
  - FMC
  - MRCC
- **Moved to one location**
  - Single point of contact
  - Hardware and software combined
  - Staffed with ICG personnel
- **ICG trusted with tracking of all fishing vessels after 36 years**





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# Hand-over process

- **Allowed to call up with various names**
  - Reykjavík radio, Ísafjörður radio etc.
  - Vessel reporting (short for Mandatory Centre)
  - Vessel Traffic Centre
  - Coast Guard
- **Answer and broadcast as Coast Guard**
- **Possible to use laws and regulations to encourage participation**
  - Encouragement - sailor to sailor talk
  - Warnings
  - File charges to appropriate police district
- **Number and laws and regulations behind**
  - Safety
  - Fisheries
  - Environment
- **Manual reports in case of break down until next port**







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# System specifications



- **AIS replaced RACAL system 2008**
  - Official system - confidential
  - Marine Traffic
- **All commercial vessels of any size**
  - Above 24 m and outside A1 – Inmarsat C once each hour and AIS A
  - Below 24 m and inside A1 – AIS A or B at least 4 times per hour
- **Recreational vessels welcome to participate either with AIS or manual**
- **Reaction if report is missing**
  - 15 minutes in the system
  - 30 minutes to establish contact with ship or nearby ships
  - 60 minutes to declare a SAR case

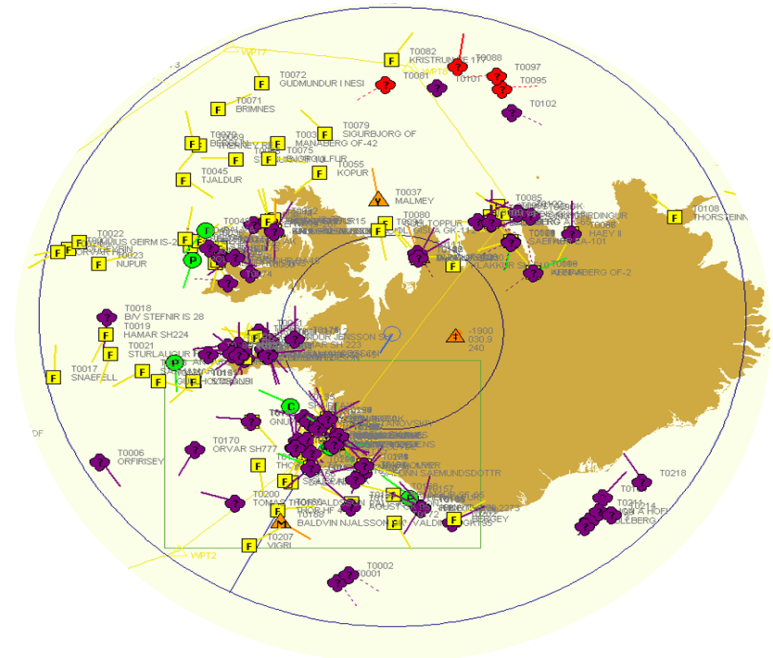




# Information confidentiality

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- Meetings held in fishing towns around Iceland to introduce new setup
- Buffer zones for fisheries law enforcement
  - Regulation- and short term closure areas
  - Boarder of EEZ
- Some fisheries more easy to detect than others
- Coast guard units guided based on information from the system
- Cases prosecuted successfully based on information
- Only official investigation agencies allowed to receive information
- Third party denied information
- **NO WITCH HUNT**
  - Often receive clues from other vessels and individuals





# Multi-task service



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- Icelandic Coast Guard asked to take on responsibility as Aeronautical Rescue Coordination Centre in 2010 (ARCC)
  - Same principles applied in most cases
- Operation centre therefore classified as Joint Rescue Coordination Centre (JRCC)
- The centre is a multi task centre
  - JRCC
  - FMC
  - VMS
  - Coastal Radio
  - General information- single point of contact for mariners
- 500 maritime SAR cases each year
  - Most cases no search
  - Vessel location known
  - Nearby vessel location known
  - System confirms other emergency indicators
- Taxi service?





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# Cooperation and cost-benefits analyses



- **Cooperation with Norwegian agencies**
  - Kystverket – Vardo VTS
  - Redningstjenesten -JRCC Bodo and JRCC Stavanger
  - Kystvakten
  - Fiskeridiretoratet- FMC Bergen
- **Cooperation with similar agencies in neighbouring countries**
- **The system saves life and property number of time each year**
  - Due to the fact it is there
  - Due to the fast reaction time
  - Due to the information available
- **The system setup is cost beneficial since there is only one centre performing multi tasks**
- **At times there is heavy load due to all the tasks**





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# Thank you

