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16146 Genova (IT).
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AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

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HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,
SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM,
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[Continued on next page]

- (54) Title: APPARATUS AND METHODS FOR ROUTING

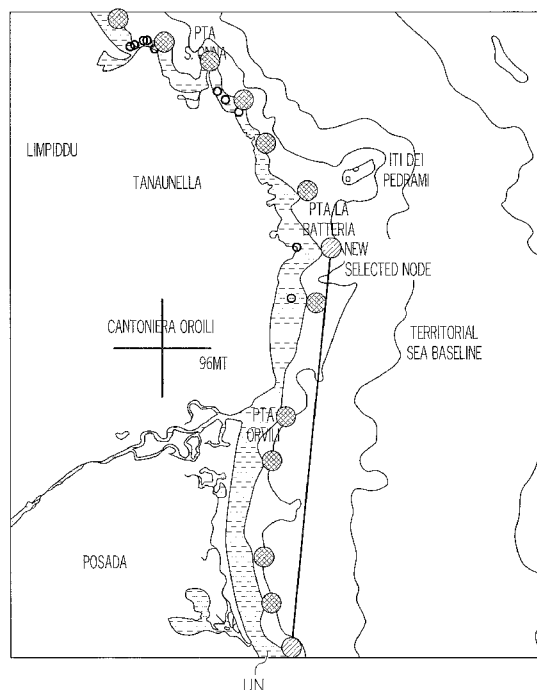


FIG. 3G

- (57) Abstract: An electronic navigational route developer may accept user input regarding the user's boat, such as height, draft and beam, and develop a route from a start point to end point based on cartographic information and the boat information.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

Published:

- *with international search report (Art. 21(3))*

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INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

INV. G01C21/20

ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G01C G08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/133131 A1 (POREDA STANLEY J [US] ET AL) 5 June 2008 (2008-06-05) paragraphs [0012], [0026], [0027], [0029], [0049], [0050], [0057], [0063] figures 1,2,5 -----	1-4,28, 38,41, 45-48, 63,64, 67-71, 73-78
X	US 2008/208445 A1 (BOLTON KENNETH A [US] ET AL) 28 August 2008 (2008-08-28) paragraph [0079] - paragraph [0087] figure 3 -----	1,28,38, 41,45



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

10 June 2014

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008133131 A1	05-06-2008	US 2008133131 A1	05-06-2008
		WO 2008067151 A2	05-06-2008

US 2008208445 A1	28-08-2008	CN 101970988 A	09-02-2011
		EP 2126515 A2	02-12-2009
		US 2008208445 A1	28-08-2008
		WO 2008106242 A2	04-09-2008

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2013/003168

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-4, 28, 38, 41, 45-48, 63, 64, 67-71, 73-78

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 28, 38, 41, 45-48, 63, 64, 67-71, 73-78

claims 1-4, 28, 38, 41, 45-48, 63, 64, 67-71, and 73-78 deal with editing stored routes

2. claims: 5-17, 22-27, 39, 49

claims 5-17, 22-27, 39, and 49 deal with including waypoints in a route when the end point and the the start point are not points of navigable visibility to one another

3. claims: 18-21, 40, 62

claims 18-21, 40, and 62 deal with user interface to accept an input regarding the characteristics of the boat for which a route is to be developed

4. claims: 29, 42, 50, 52, 65

claims 29, 42, 50, 52, and 65 deals with an interface to allow the user to set a start point for the route other than the current location of the electronic navigational route developer

5. claims: 30-36, 43, 66, 72

claims 30-36 , 43, 66, and 72 deal with a user interface to allow a user to select either a manual or automatic route developer

6. claims: 37, 44

claims 37 and 44 deal with incorporating tidal information in the development of a route.

7. claims: 51, 53-61

Claim 51 and 53-61 deal with the discretization of a multidimensional region that encompasses user-supplied start and end points
