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Declarations under Rule 4.17:

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

- (88) Date of publication of the international search report:
10 March 2016

(54) Title: PREDICTING ATTAINABLE LOCATIONS

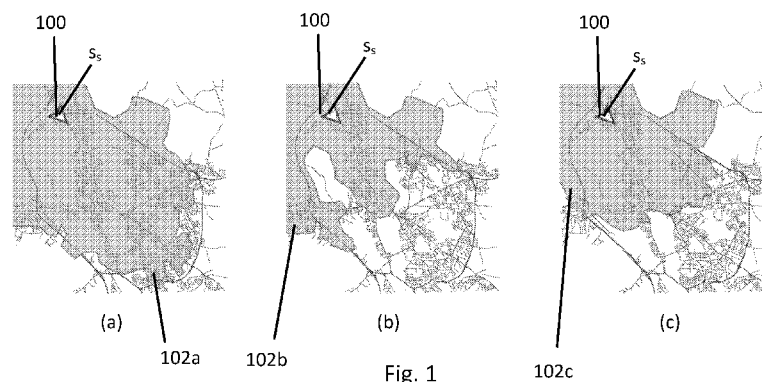


Fig. 1

(57) Abstract: A method of predicting attainable locations for a vehicle (100)(500), based upon its current location, the prediction using map data representing a map of a physical area around the current location and the map data comprising a plurality of navigable segments traversable by a vehicle (100)(500), the method comprising obtaining location data (700)(800) determining the location of the vehicle (100)(500) within the map represented by the map data; estimating the energy required to traverse each of the navigable segments within the map data; processing the map data together with the energy estimate to provide the energy requirement for substantially every passable route of the vehicle (100)(500) from its current location to each destination within the area; monitoring an energy source of the vehicle (100)(500) to determine the energy remaining therein; processing the remaining energy available together with the energy requirement for substantially every passable route to determine attainable locations for the vehicle (100)(500); and outputting the attainable locations for the vehicle (100)(500).

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2015/051575

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01C21/34
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

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, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2014/001565 A1 (TOMTOM DEV GERMANY GMBH [DE]) 3 January 2014 (2014-01-03) abstract figures 2, 3, 6-9 page 1, lines 33-35 page 4, lines 22-23 page 5, line 9 page 13, lines 14-15 page 15, lines 24-25 page 16, lines 13-14, 22-28 page 19, lines 28-29 page 20, line 39 page 21, lines 34-36 claims 1-20 ----- -/--	1,2,7,8, 19,20



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

14 September 2015

Date of mailing of the international search report

22/01/2016

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INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2015/051575

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2013/096818 A1 (VICHARELLI PABLO A [US] ET AL) 18 April 2013 (2013-04-18) abstract figures 1-15 paragraphs [0002] - [0017], [0035], [0038], [0040] - [0041], [0050], [0054], [0065], [0066] - [0068] claims 1-20 -----	1,2,7,8, 19,20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2015/051575

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, 2, 7, 8, 19, 20

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, 2, 7, 8, 19, 20

Updating attainable locations

2. claims: 3-6, 10-15

Modelling navigable segments

3. claims: 9, 16-18

Calculating energy requirements

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2015/051575

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2014001565 A1	03-01-2014	CN 104583722 A	29-04-2015
		EP 2867618 A1	06-05-2015
		JP 2015526710 A	10-09-2015
		KR 20150036172 A	07-04-2015
		US 2015149078 A1	28-05-2015
		WO 2014001565 A1	03-01-2014
		WO 2014005979 A1	09-01-2014

US 2013096818 A1	18-04-2013	NONE	
