



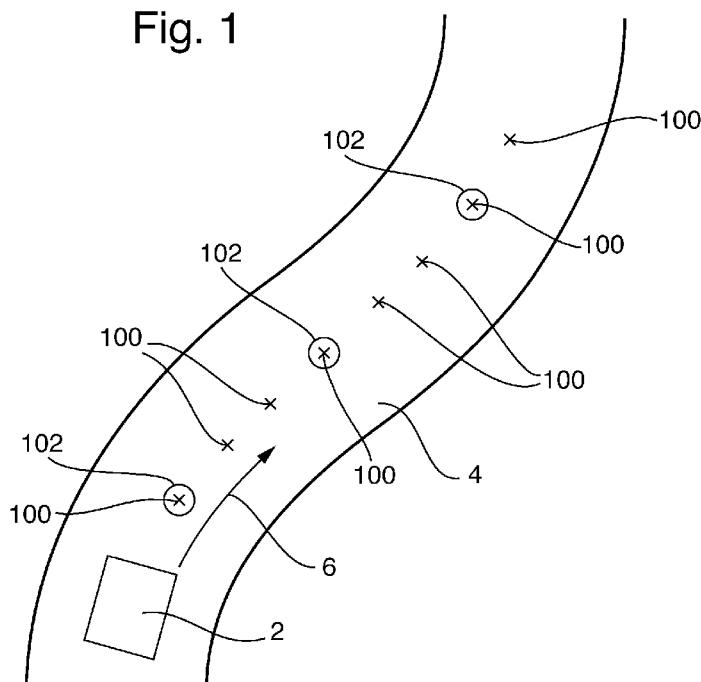
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 11250557.3 24 May 2011 (24.05.2011) EP</p> <p>(71) Applicant <i>(for all designated States except US):</i> BAE SYSTEMS PLC [GB/GB]; 6 Carlton Gardens, London SW1Y 5AD (GB).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants <i>(for US only):</i> SMITH, Christopher, Andrew [GB/GB]; BAE Systems, ATC, Filton, Bristol South Gloucestershire BS34 7QW (GB). HESTER, Geoffrey James [GB/GB]; BAE Systems, ATC, Filton, Bristol South Gloucestershire BS34 7QW (GB).</p> | <p>(74) Agent: BAE SYSTEMS PLC, Group IP Dept; PO Box 87, Farnborough Aerospace Centre, Farnborough Hampshire GU14 6YU (GB).</p> <p>(81) Designated States <i>(unless otherwise indicated, for every kind of national protection available):</i> AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, 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, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.</p> <p>(84) Designated States <i>(unless otherwise indicated, for every kind of regional protection available):</i> ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).</p> |
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[Continued on next page]

(54) Title: VEHICLE NAVIGATION

Fig. 1



(57) Abstract: A method and apparatus for establishing a route for an autonomous vehicle (2), the method comprising: determining localisation information for the vehicle (2) with respect to a first frame of reference that is fixed with respect to a current 5 state of the vehicle (2); determining localisation information for the vehicle (2) with respect to a second frame of reference that is fixed with respect to an entity (e.g. Earth), the vehicle (2) being moveable with respect to the entity; establishing a route for the vehicle (2) with respect to the second frame using the localisation information for the vehicle (2) with respect to the second frame; transforming the route from the second frame to the first frame; and determining a route for the vehicle (2) with respect to the first frame using the localisation information for the vehicle (2) with respect to the first frame and the transformed route.

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

International application No
PCT/GB2012/051156

A. CLASSIFICATION OF SUBJECT MATTER
INV. G05D1/02
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)
G05D

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 2010/114416 A1 (AU KWONG WING [US] ET AL) 6 May 2010 (2010-05-06) figures 1-3 paragraphs [0020], [0030], [0032], [0033], [0034], [0043] -----	1-15
X	US 2006/089764 A1 (FILIPPOV MISHA [US] ET AL) 27 April 2006 (2006-04-27) figures 2,6 paragraphs [0001], [0033] - [0034], [0043], [0064] - [0065] -----	1-15
X	US 2006/106533 A1 (HIROKAWA RUI [JP]) 18 May 2006 (2006-05-18) figures 1-2 paragraphs [0015], [0040], [0043] -----	1-15



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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2012/051156

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010114416	A1	06-05-2010	NONE

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