

Curriculum Vitae  
A.J.M. Broens BSc Geodesy  
October 2015

**Personal Details**

Full Name : Arend Jan Maria Broens (Arjen)  
Discipline : Project Manager, senior construction, DC, land & construction surveyor  
Date of Birth : 28 January 1962  
Nationality : Dutch  
Residence : Edinburgh, Scotland UK (since 2008)  
Driving license : Full UK & International Driving Permits  
Languages : English (excellent), French (fair), German (good), Dutch (native), Spanish (fair)  
Contact : Mobile: +44 7825 168 174  
Email: arjenbroens@yahoo.co.uk

**Formal Education**

Spatial Analyzer base course, Houston USA, 2014  
Spatial Analyser extended 3 days course, Livingston, 2015  
QINSy base course, Zeist NL 2012  
Hydrographic course BSc level Nautical College, Amsterdam (1993)  
Polytechnical Academy, Utrecht, NL, BSc level Geodesy (1990)  
Mediate Polytechnic school, Arnhem, NL Geodesy (1986)  
Teaching school 2<sup>nd</sup> grade (Math - Biology) Nijmegen, NL (unfinished)  
Field Artillery Land Survey School (sergeant, Dutch Army), Breda & Havelte, NL (1981, 1982, National Service)

**HSE Certification**

Falck NUTEC Aberdeen, UK BOSIET/Skyscape/MIST - expires August 2017  
Falck NUTEC Aberdeen UK offshore medical - expires September 2017  
Petrofac CA-EBS certificate August 2014  
Basic Disclosure Scotland (no issues) February 2015  
Working on Height Singapore certificate November 2014  
CSCS card November 2014

**Profile**

Trainer & coach on technical & team matters in DC surveying.  
Senior hydrographic & land surveyor, senior construction surveyor, senior dimension control surveyor, Project Management, IMDC project manager.

VB/VBA programmer, coordinator, project manager, general manager, general director, initiator & enforcer of (new) departments and companies & societies, chairman, client representation, method statement writing & checking, 3D CAD technician & calculator, document preparation and review, report writing and verification.

**Detailed project listing**

- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Existing façade Leica HDS 6100 3D laser scanning York place, Edinburgh. Project Management and reporting.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple Racing circuits & racing car laser scanning projects, UK, Germany, Italy (iRacing): Leica HDS 6100 3D laser scanning. Project Management and reporting.

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- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control as-built surveys of GE / McDermott THS structures, Bridge of Don UK (Sulzer): 3D as built of existing structures Leica TS15 Total Station and Spatial Analyzer. Project Management, dimensioning, calculations and reporting.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control as-built surveys of SSE Hydro turbine core and surroundings, Killin UK (Sulzer): 3D as built of existing settlement Leica AT402, Leica 6100 Laser Scanner, Leica TS15 Total Station and Spatial Analyzer. Project Management, dimensioning, calculations and reporting.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control as-built surveys of cable Reel Carousel for analysis, Newcastle, UK (Technip): 3D as built of existing settlement Leica 6100 Laser Scanner, Leica TS15 Total Station and Spatial Analyzer. Project Management, dimensioning, calculations and reporting.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control as-built surveys Telecoms towers, Colorado Springs, USA (Cheyenne Propagation): 3D as built of existing telecoms towers Leica C10 Laser Scanner. Project Management and reporting QA/QC.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control as-built surveys of Shell Brent Charlie, Offshore, UK (Shell): 3D as built Laser Scanning and bench mark control Leica C10 Laser Scanner, Leica TS15 Total Station and Spatial Analyzer. Project Management and reporting QA/QC.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control surveys of Cement mills for alignment, Dunbar, UK (Lafarge Tarmac): 3D as built of Cement mill alignment with Leica AT401 Laser Tracker and Spatial Analyzer. Project Management, dimensioning, calculations and reporting.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control surveys of Grant & Ellon, EGINA & Baobab XT manifold (FMC Technologies), Dunfermline, UK: 3D positioning of XT and hub positions with Leica AT401 Laser Tracker and Spatial Analyzer. Project Management, dimensioning, calculations and reporting.
- 2015 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control and calibration LV108 lay vessel (McDermott), Vigo, Spain: Heading, position calibration and local ships offsets for all sensors and antenna's, ships coordinate system layout and benchmark creation
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control of FSO Turret, Singapore (EMAS AMC): 3D positioning of HTT & Spool details with Leica TS15 and Spatial

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- Analyzer. Project management, training, dimensioning, calculations and reporting.
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control of Saipem HTT and Spool tubes(Saipem), Darwin, Australia: 3D positioning of HTT & Spool details with Leica TS11 and Spatial Analyzer. Project management, training, dimensioning, calculations and reporting.
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Multiple dimensional control surveys of EGINA & Baobab XT manifold (FMC Technologies), Dunfermline, UK: 3D positioning of XT and hub positions with Leica AT401 Laser Tracker and Spatial Analyzer. Project Management, dimensioning, calculations and reporting.
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control and calibration HARKAND Da Vinci(HARKAND), Blyth, UK: Heading, roll, pitch, position calibration of all sensors and DGPS antenna's.
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control of cable Reels (Subsea7), Hartlepool, UK: 3D bearing and dogs dimensioning, calculations and reporting.
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control and calibration Olympic Triton(Canyon), Kalundborg, Denmark: Heading, roll, pitch, position calibration and local ships offsets for all sensors and antenna's
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Induction Spatial Analyser & Leica AT402 Laser Tracker, Houston, TX
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control ExxonMobil Ethylene plant, Fife: steel stool flatness before milling
- 2014 IMDC project manager - UTEC StarNet(Contract, Livingston, UK)  
Dimensional control and calibration MAERSK Lifter: supply and test roll, pitch, heave, position and heading for all sensors and antenna's for DP program
- 2013 Dimension control surveyor - Boskalis (Freelance, Gdansk, Poland)  
Dimensional control and calibration MV Union Sovereign: supply and test roll, pitch, heave, position and heading for all sensors and antenna's for DP program.
- 2013 Dimension Control surveyor - Bluewater (Freelance, Nigg, Scotland)  
Dimension control fpso Haewene Brim in Nigg dry dock: mating cone ring survey, 3D position and differences with last as built survey
- 2012 - 2013 Senior surveyor - MJV Boskalis - Volker Stevin CI  
(Freelance, Coatzacoalcos, Mexico)  
First submerged tunnel element positioning in Latin America, setup & analysis geodetic network, VRS WIFI GPS setup and control, dimension control entrances and elements, float out and immersion positioning guidance of all elements, 3D monitoring elements during backfill, rock dumping surveyor on STEMAT Scradeway and Packman.

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- 2009 - 2012 Maintenance managers assistant (Contract, Dalhousie Castle Hotel, Scotland UK),  
general maintenance, stock control improvement, HSE analysis & training personnel, Energy consumption control, Risk assessments and control, pest control assessments, PAT testing & reporting, SPA pool chemical control & reporting, general managers reporting & advice, fire control and reporting, annual departmental reporting, IT improvement & control.
- 2008 - 2009 Sabbatical year - Gorton Self-Catering complex (Freelance, Scotland, UK)  
general maintenance self-catering complex, painting, gardening, cleaning, landscaping, wood preservation & control, IT assistance planning & PAT testing.
- 2008 Leica Trainer/Coach/instructor - POL Geotechniek BV (Contract, Andelst, NL)  
Training/Coaching/Instruction full Leica laser/levels/Total Station/GPS range, technical support Sales dept., departmental sales control and planning, software tester, stock control and analysis.
- 2007 Survey consultancy Omnisport Velodrome - Ballast Nedam (Freelance, Apeldoorn, NL)  
Dimension control advice of the saddle roof structure of the Velodrome. Application of old compensator less Leica T2 to align moving roofstructure. Planning, method statement & reporting.
- 2001 - 2008 Dimension control surveyor - TenTech engineering (Freelance, Delft, NL)  
Dimension control 3D tent structures: 3D analysis, setting out, control and reporting AquaParc 3D pool structure. Measurement, analysis & reporting 3D structure.
- 2001 - 2008 Dimension control Wembley Stadium- Voortman Steel (Freelance, London, UK)  
Dimension control 3D steel structures: 3D analysis, setting out, control and reporting. Measurement, analysis & reporting 3D structure.
- 2001 - 2008 Dimension control consultancy - Eindhoven University (Freelance, Eindhoven, NL)  
Mentoring & guidance of students in their thesis in 3D dimensional control of building sector.
- 2001 - 2008 Trainer/Coach/Instructor - BouwCirkel/Bouwradius T&A (Freelance, Zoetermeer, NL)  
Trainer/Coach/Instructor of basic and 3D measured building surveying techniques to workmen (surveyors/carpenters/joiners/welders/foremen, etc).
- 2001 - 2008 Software tester/QA analysis - van Hoof Engineering (Freelance, Eindhoven, NL)  
Testing, analysis, QA and reporting of MOUS measured building survey control software.

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- 2001 Dimension Control AquaParc - Leisure Engineering (Freelance, Moscow, RUS)  
3D Dimension control and checks on base structure, analysis, consultancy & reporting, 3D drawing QA checks.
- 2000 - 2008 General Manager - Broens engineering & Consultancy (Self employed, NL)  
Software sales, training, coaching & consultancy. Measured building & construction consultancy, geodetic control network advice, analysis & computations.
- 1995 Project management survey Amsterdam ArenA - BAM (Contract, Bunnik, NL)  
Method statement setup, survey planning & control, dimension control, analysis & reporting, cost control survey work, advice to project director.
- 1995 Project management survey Gelredome Stadium - BAM (Contract, Arnhem, NL)  
Method statement setup, survey planning & control, dimension control, analysis & reporting, cost control survey work, advice to project director.
- 1995 Project management survey World Champion Golf course Buro Hoogstraat (Freelance, Germany),  
Method statement setup, survey planning & control, dimension control, analysis & reporting, cost control survey work, advice to project director.
- 1995 Method statement design ISO9000 - Vermeer Bouw (Freelance, Hoofddorp, NL)  
Method statement design, QA and integration ISO9000.
- 1995 Several sheet pile / Leveling projects - Haverkort (Freelance, Middelharnis, NL) Method statement setup, survey planning & control, dimension control, analysis & reporting, cost control survey work, advice to project director.
- 1995 - 2000 General manager Survey Department - BAM (Contract, Bunnik, NL)  
Measured building survey control, dimension control, analysis & reporting survey techniques Dimension control 3D structures: measurement, analysis & reporting 3D structures. Departmental responsibilities. Costs & personnel planning, & control.
- 1994 - 1995 Training Construction surveyors - BOB (Freelance, Gameren, NL)  
Level 1,2 and Pro instruction, Method statement setup, survey planning & control, dimension control, analysis & reporting, cost control survey work.
- 1993 - 1995 Dimension control surveyor - TCN Beton Wijkertunnel (Freelance, Velsen, NL)  
Method statements, geodetic network setup, analysis, control and reporting. Dimension control 3D structure. Measurement, analysis & reporting 3D structure.

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- 1993 - 1995 Dimension control surveyor - J. V.d. Bersselaar (Freelance, Barendrecht, NL)  
Method statements writing & analysis of Wijkertunnel tunnel element immersion joint survey & control, carrying out of as built checks and 3D reporting to Project management.
- 1993 - 1994 Sounding city canal system - v. Niebeek Environmental (Contract, Amersfoort, NL)  
Geodetic network design, analysis and maintenance, sounding surveys, charting & reporting.
- 1993 Settlement surveys - Haverkort Infra (Contract, Rotterdam, NL)  
Geodetic network design, 3D analysis and maintenance, monitoring surveys and reporting.
- 1993 P15 - P18 Maasmond Crossing dredging survey-HAM VOW (Contract, HvHolland, NL)  
Post dredging surveys, charting & reporting to Party Chief, progress responsibility. AMOCO
- 1993 P14A - P15D Wintershall dredging survey-HAM Survey (Contract, North sea, NL)  
Post dredging surveys, charting & reporting to Party Chief, progress responsibility. AMOCO
- 1992 P15 - P18 Zeepipe dredging survey-HAM Survey (Contract, North sea, NL)  
Post dredging surveys, charting & reporting to Party Chief, progress responsibility. AMOCO
- 1992 Dimension checks Castoro Seis pipe lay barge - EMC (Contract, Schiedam, NL)  
Dimension checks stress checks pipe line conveyor belt, local ships base network design, analysis & reporting.
- 1992 Rock drilling survey Penrod 64 - Volker Stevin CE (Contract, Thurso, UK)  
Geodetic network design, analysis & maintenance, Tide monitoring, Dimension checks, local ships base network design, analysis & reporting.
- 1992 Rig move & positioning Penrod-64 - Volker Stevin CE (Contract, Thurso, UK)  
Rig move surveying, Dimension checks Drilling rig lay out and drilling template, local ships base network design, analysis & reporting. Writing Winch control software (slack/pull calculations)
- 1992 Dounreay refurbishment survey - VSCE (Contract, Thurso, UK)  
Dimension checks, local project network design, analysis, maintenance & reporting to project management.
- 1992 Kongsberg DGPS benchmark survey - ODIN systems (Contract, Hippolytushoef, NL)  
Position check of DGPS antennas & reporting.
- 1991 - 1992 Sandpit sounding survey - ODIN systems (contract, Andijk, NL)

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- Geodetic network design, analysis, maintenance & reporting, sounding pre/post dredge surveys, charting & reporting to management.
- 1991 Pipeline leveling survey - Wing surveys (Contract, Aruba, Dutch Antilles)  
Leveling survey WEB, calculations & reporting.
- 1991 Harbor pre dredge survey - Wing surveys (Contract, Aruba, Dutch Antilles)  
Geodetic network creation & maintenance, pre dredge sounding survey, charting, analysis & reporting.
- 1991 - 1994 Landscaping 3D terrain charting - Copijn (Contract, Utrecht, NL)  
Geodetic network design, analysis & maintenance, 3D terrain surveys & setting out & reporting.
- 1991 - 1994 Land survey project management/software design - Delta (Contract, Utrecht, NL)  
Programming 3D land survey positioning analysis software, rig move software (winch control programming), sounding software.
- 1991 ARCO Pickerill dredging survey - Boskalis (Contract, Northsea, UK)  
Pre/post dredging surveys, charting & reporting.
- 1991 ZEEpipe dredging project - Volker Stevin Dredging (Contract, North sea, NL)  
Dimension checks, local ships base network design, analysis & reporting.
- 1991 GAS pipe survey - AKZO, NAM, Gasunie (Contract, NL)  
Personnel planning, acquisition, sales, cost control, work preparation, geodetic network design, analysis & reporting.
- 1989 RAF rig move survey - British Aerospace (Contract, North sea, UK)  
Coordination, position analysis, dimension checks, local ships base network design, analysis & reporting.
- 1989 YATZY rig move survey - Bravenboer & Scheers (Contract, Schelde area, BEL)  
Position checks, control & assistance, dimension checks, local barge base network design, analysis & reporting.

**Additional Certification**

First Aid course, Fire fighting base course, Bonnyrigg UK 2010 (expired)  
AutoCAD base course, Utrecht NL, 1997  
VCA (petro)chemical Safety course, Rotterdam NL 1995 (expired)  
4WD terrain driving course, Ardennes Luxemburg, 1993  
Offshore survival training, Den Helder 1992 (expired)  
Management training, Valkenburg NL 1989/1990

Basic Disclosure Scotland 04-02-2015  
Yellow Fever Vaccination 02-08-2015  
Visa USA 2014  
Visa Australia 2014

**Affiliations**

Member, Hydrographic Society (NL)  
Member, Land survey Society (NL)  
Initiator, co-enforcer and member, Dutch measured building survey Society  
VVM (NL)  
Member, several Land & Marine survey groups LinkedIN  
Member, several Tunnel & bridge building surveyors LinkedIN  
Hardware/Software communications & conversions  
Online dedicated software design and application of new techniques.

**Technical Experience**

**Positioning:**

Precision: Leica SmartStation, Trimble (D)GPS , RTK, 3D surface  
navigation systems.

**Acquisition:**

Acoustic positioning, Single beam echo sounders, ADCP current meters,  
tide gauges.

**Land Survey:**

Theodolites, EDM, Total stations, lasers, (automatic) levels,  
astronomical & sun theodolite positioning, gyro theodolites, tilt  
compensatorless planing theodolite and Total Stations, Leica Laser  
Trackers.

**Software:**

Microsoft Office (incl. VB/VBA programming), 3D AutoCad/BricsCAD (incl.  
VB/VBA programming), MOVE3, LandCALC, MOUScad/calc, Windows, Spatial  
Analyser

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