CURRICULUM VITAE

PROPOSED POSITION: Remote Sensing Expert

1. **FAMILY NAME:** **DE KOK**
2. **FIRST NAME:** **ROELAND**
3. **DATE OF BIRTH:** **25/01/1967**
4. **NATIONALITY:** **DUTCH**
5. **CIVIL STATUS:** **SINGLE**
6. **EDUCATION:**

INSTITUTION	DEGREE (S) OR DIPLOMA (S):
University of Munich, Institute for Land Use Planning and Nature Conservation, 06/1997--09/2001	Ph.D. Forestry, with a thesis on automatic mapping techniques.
ITC, Enschede, Jan-Dec ,1995	Geoinformation and Map production Postgrad. Course. (Photogrammetry, Remote Sensing, GIS)
Agricultural University Wageningen,9/1986--10/1994	MSc. Forestry (including remote sensing)

7. **LANGUAGE SKILLS:** Indicate competence on a scale of 1 to 5 (1 - excellent, 5 - basic)

LANGUAGE	READING	SPEAKING	WRITING
Dutch	***Mother tongue***		
English	**1**	**1**	**1**
German	1	1	1
French	1	2	2
Italian	1	2	2
Bahasa Indonesia	2	1	2

MEMBERSHIP OF PROFESSIONAL BODIES: KLV WAGENINGEN

OTHER SKILLS: GEOBIA Expert

PRESENT POSITION: Consultant at WWW.LANDCONSULT.DE

YEARS WITHIN THE FIRM: 12

KEY QUALIFICATIONS (RELEVANT TO THE PROJECT):

- Development of automatic image detection and deriving indicator values for agricultural area's at GAF_ AG 2002-2004 (2 years)
- Detection of abandonment of agricultural parcels and automatic detection of natural succession on agricultural parcels at ProGea periods 2005-2009 in various projects (3 years)
- Automatic image analysis for the MARS unit at JRC-Ispra for agricultural control in the EU (3 years)

- Proven experience with one of the largest remote sensing programs in the EU. The LPIS control of parcels based upon standardized rules (ISO2859-2). The aim here was to develop the stratification possibilities of “parcels at risk” agains no-problem areas.
- Wall to Wall classification at the national level of Rapid Eye mosaics for agricultural control at national scale.
- Developer of new quality measures for LPIS, in cooperation with experts from the European commission. including the JRC key-expert in this field; DR. Hejmanowska , see publications nr 3 below and “Geomatics in support of the Common Agricultural Policy Proceedings of the 16th GeoCAP”
- Familiar with general GIS software and image analysis software from Leica, ENVI. But well known specialist in Definiens eCognition (company by Nobel price winner Dr. Binnig. I am the first Beta user 1998 and still participate on 6 month cycle Beta testing for each new version since 1998)
- Familiar with mainstream GIS databases, ESRI /Microstation but also open source SAGA/QGIS.
- Since 1997 my professional work has been focused on automatic map production and monitoring procedures for image interpretation. Specialist in the GEOBIA branch of Remote Sensing.
- Worked from 2009-2012 in the MARS group JRC, ISPRA, Italy, The research center of the European Commission on LPIS control.
- Proven development on innovative methods for forest inventory. Main focus on a new vision to forest management. Not based on a “per forest stand management decision” but on ecologically defined “grouping of single trees” and individually detected crowns, through automatic remote sensing procedures. Extensive documentation on www.landConsult.de (http://landconsult.de/home/showcase/index.html)
- Detailed single tree detection and height measurement for forest volume calculations based on 1 meter satellite data and aerial photogrammetry.
- Developing the Sentinel-2A applications for polish agriculture, an ESA project for 2016 at ProGea.PL (7 months)
- 2004-2006 Developed automatic method’s for control of forest mapping in Poland for updating the forestry database and the CORINE land-cover. Various publications through www.progea.pl , (Key-Expert Dr. P. Wezyk see also publication 6 below).
- 2002-2004 continuing my work on my PhD-thesis topic of automatic image interpretation at WWW.GAF.DE

SPECIFIC EXPERIENCE IN THE REGION

COUNTRY	DATE FROM – DATE TO:
Italy	2009-2012 research for the EU 2015 teaching at university level
Poland	2004-2008/2015-2016 various project based missions and short term contracts
South Africa	2005-2008 project based missions
Germany	1997-2001 Ph.D. 2002-2005 www.GAF.de and Definiens 2012-2015 at www.landConsult.de
Indonesia	1991 MSc

PROFESSIONAL EXPERIENCE:

Date	**2015--2016**	**Location**	**Cracow**
Company	www.ProGea.Pl	**Position**	**Researcher/Developer**
Description: Remote Sensing specialist			
Reference person: Dr P. Wezyk at www.progea.pl			
Project: **Various projects on automatic processing of Satellite Sentinel 2 programm. An ESA application in mainlky agriculture and partially in forestry.**			

Date	**2012--2015**	**Location**	**various**
Company	www.landconsult.de	**Position**	**Researcher**
Description: Remote Sensing specialist			
Reference person: Dr. M. Weidenbach at www.landConsult.de			
Project: **Various projects on forest inventory and automatic processing of Satellite and Orthophoto maps. The main aim is to develop a totally new approach to forest inventory based upon single tree detection with specialised height model for volume calculations. Extensive project descriptions on the www.landConsult.de webpage.** **Maintaining strong cooperation with www.Progea.pl for innovation partnership. The training material was used for courses at the agricultural academy Cracow in 4 tours. Extensive project material and publications on the progea webpage.**			

Date	2009/10—2012/10	**Location**	**ISPRA, Italy**
Company	JRC	**Position**	**Researcher**
Description: Developing new methods on Control of Agriculture with Remote Sensing			
Reference person: Thomas Kemper thomas.kemper@jrc.it			
Main tasks: ▪ **Research on automatic methods for image interpretation and quality control on LPIS data.** ▪ **Exploring the possibility of stratification of the data. Stratification is not necessarily applied under ISO2859-2 but stratification could become part of future quality control for budgetary reasons.** ▪ **Developing an alternative to the very unsatisfying KAPPA-Value based assessment in image classification. Kappa Value lacks the implicit spatial relationship among test and training data sets (see 15/ publication nr.3)**			

Date	2006—2009	**Location**	**various**
Company	Www.landconsult.de	**Position**	**Researcher**
Description: Remote Sensing specialist			

Reference person: Dr. M. Weidenbach at www.landConsult.de
Project: ▪ **Various projects on forest inventory and automatic processing of Satellite and Orthophoto maps. The main aim is to develop a totally new approach to forest inventory based upon single tree detection with specialised height model for volume calculations. Extensive project descriptions on the www.landConsult.de webpage.** ▪ **Included 4 training tours to CSIR South Africa as a specialist trainer for Definiens eCognition software. Each tour from 3 up to 12 weeks. All training material developed in house.** ▪ **Maintaining strong cooperation with www.Progea.pl for innovation partnership. The training material was used for courses at the agricultural academy Cracow in 4 tours. Extensive project material and publications on the progea webpage.**

Date	2005	**Location**	**Cracow**
Company	Www.ProGea.pl	**Position**	**Researcher**
Description: Remote Sensing/GIS specialist			
Reference person: Dr. P. Wezyk at www.progea.pl			
Project: ▪ **Innovations on automatic interpretation of imagery. Statistical and textural analysis of satellite imagery.** ▪ **Main topic on texture analysis of imagery used in various other projects. Variety of courses on eCognition GEOBIA software using in house training material.**			

Date	2002--2004	**Location**	**Munich**
Company	Www.GAF.de	**Position**	**Researcher**
Description: Remote Sensing specialist			
Reference person: Dr. P. Volk			
Project: ▪ **Innovations on automatic interpretation of imagery. Research project on innovation from DLR, Germany.** ▪ **Main topic on texture analysis of imagery used in various other projects as can be traced in cooperative research by the German military academy.**			

SELECTED PUBLICATIONS;

1/ de Kok, R. Spectral Difference in the Image Domain for Large Neighborhoods, a GEOBIA Pre-Processing Step for High Resolution Imagery. Remote Sens. 2012, 4, 2294-2313.(http://www.mdpi.com/2072-4292/4/8/2294)

2/ R.de Kok, K. Taşdemir. Contrast analysis in very high resolution imagery for near and far neighborhoods, Proceedings of the 4th GEOBIA, May 7-9, 2012 - Rio de Janeiro - Brazil. p.196

3/ Marinho, E. , Fasbender, D., De Kok, R. Spatial assessment of categorical maps; A proposed framework. Proceedings of the 4th GEOBIA, May 7-9, 2012 - Rio de Janeiro - Brazil. P.602

4/ R. de Kok, and K. Taşdemir, Analysis of high-resolution remote sensing imagery with textures derived from single pixel objects. SPIE Remote Sensing Conference 8181, Earth Resources and Environmental Remote

Sensing/GIS Applications, 19-22 September, Prague2011.

5/ R. de Kok, An object based approach on the detection of landscape features in the Czech Republic. Geomatics in support of the Common Agricultural Policy Proceedings of the 16th GeoCAP Annual Conference, 2010. Centro Congressi Giovanni XXIII, Bergamo 24th-26th November 2010

6/Wężyk P., de Kok R., Zajaczkowski G. 2004. The role of statistical and structural texture analysis in VHR image analysis for forest applications. A case study on QuickBird data in the Niepolomice Forest. Angewandte Geoinformatik 2004. Herbert Wichmann Verlag. Heidelberg. ISBN 3-87907406-2, 770-775.

Extended publication list

de Kok, R. Spectral Difference in the Image Domain for Large Neighborhoods, a GEOBIA Pre-Processing Step for High Resolution Imagery. *Remote Sens.* 2012, *4*, 2294-2313.(http://www.mdpi.com/2072-4292/4/8/2294)

R.de Kok, K. Taşdemir. Contrast analysis in very high resolution imagery for near and far neighborhoods, Proceedings of the 4th GEOBIA, May 7-9, 2012 - Rio de Janeiro - Brazil. p.196
Marinho, E. , Fasbender, D., De Kok, R. Spatial assessment of categorical maps; A proposed framework. Proceedings of the 4th GEOBIA, May 7-9, 2012 - Rio de Janeiro - Brazil. P.602

R. de Kok, and K. Taşdemir, Analysis of high-resolution remote sensing imagery with textures derived from single pixel objects. SPIE Remote Sensing Conference 8181, Earth Resources and Environmental Remote Sensing/GIS Applications, 19-22 September, Prague2011.

R. de Kok, An object based approach on the detection of landscape features in the Czech Republic. Geomatics in support of the Common Agricultural Policy Proceedings of the 16th GeoCAP Annual Conference, 2010. Centro Congressi Giovanni XXIII, Bergamo 24th-26th November 2010

Tompalski P., Wężyk P., de Kok R., Kukawski M. 2009. *Determining tree number in pine stands using airborne laser scanning data and orthophotos*. Annals of Geomatics, ISNN 1731-5522, 7 (2), 133-141.

de Kok R., Wężyk P., Weidenbach M. 2008. *The role of edge objects in full autonomous image interpretation.* GEOBIA, 2008: Pixels, Objects, Intelligence: Geo-Object Based Image Analysis for the 21st. Century. Proceedings Book. GEOBIA, University of Calgary, Alberta, Canada. (http://homepages.ucalgary.ca/~gjhay/geobia/Aug18/GEOBIA%20Themes/__Theme08/6717_DeKok_Proc_pap.pdf).

de Kok R., Wężyk P. 2008. *Principles of full autonomy in image interpretation. The basic architectural design for a sequential process with image objects*. Object-Based Image Analysis. Blaschke, Th., Lang S., Hay, G.J. (Eds.). Series: Lecture Notes in Geoinformation and Cartography. Springer Berlin Heidelberg, ISSN: 1863-2246, 697-710.

Jędrychowski I., Wężyk P., de Kok R. 2007. *Zagospodarowanie terenu - Pokrycie terenu - Metoda klasyfikacji obiektowej*. Atlas otoczenia Kampusu 600-lecia odnowienia Uniwersytetu Jagiellońskiego. (Red. Jędrychowski I.). Uniwersytet Jagielloński IGiGP, ISBN 978-83-88424-32-8, 58-59.

Wężyk P., de Kok R., Szombara S., Weidenbach. M., Zajączkowski G., 2007. 2007. *Replacing Sample Plots Forest Inventory by whole stand measurements based on LIDAR and orthophoto.* ForestSat 2007, Montpellier .

Wężyk P., de Kok R., Szombara S. 2007. *Zastosowanie obiektowo zorientowanej analizy obrazu (OBIA) wysokorozdzielczych obrazów satelitarnych w klasyfikacji obszaru miasta Krakowa.* Archiwum Fotogrametrii, Kartografii i Teledetekcji. ISBN 978-83-920594-9-2, Warszawa, 17b, 791-800.

Wezyk, P., de Kok R 2007. *Putting Research into Practice - Developing the Process Chain for Data Fusion in the Municipality of Krakow.* Geospatial Crossroads & GI_Forum. Car A., Griesebner G., Strobl J. (Eds.). Herbert Wichmann Verlag, Hüthig GmbH & Co. KG, Heidelberg. ISBN 978-3-87907-461-7, 176-181. 3-6.07.2007. Salzburg, Austria Symposium and Exhibit for applied geoinformatics

de Kok R., Wężyk P. 2006. *Process development and sequential image classification for automatic mapping using case studies in forestry.* ISPRS WG VIII/11 & EARSeL joint Conference "3D Remote Sensing in Forestry", Vienna, 14-15 February 2006, 380-384

Wężyk P., de Kok R., Zajaczkowski G. 2004. *The role of statistical and structural texture analysis in VHR image analysis for forest applications. A case study on QuickBird data in the Niepolomice Forest.* Angewandte Geoinformatik 2004. Herbert Wichmann Verlag. Heidelberg. ISBN 3-87907406-2, 770-775.

De KOK, R., SCHNEIDER, T. & A. AMMER (1998): Das Problem der Schatthänge im Luftbild - können digitale CCD Scanner die Informationslücke schließen? In: AFZ 24: 1454- 1457.

SCHNEIDER, T., BUCK, A., de KOK, R. & W. SEMMT (1998): Konzepte, Probleme und erste Ergebnisse eines auf Fernerkundung gestützten Monitoring-Systems für den Alpenraum. In: Forstliche Hochschulwoche, Freising.

BUCK, A., de KOK, R, SCHNEIDER, T. & U. AMMER (1999a): Improvement of a forest GIS by integration of remote sensing data for the observation and inventory of "protective forests" in the Bavarian Alps. In: Proc. IUFRO Conference on Remote Sensing and Forest Monitoring, Rogow, Poland, June 1-3, 1999.

BUCK, A., de KOK, R., SCHNEIDER, T. & U. AMMER (1999b): Integration von Fernerkundung und GIS zur Beobachtung und Inventur von Schutzwäldern in den Bayerischen Alpen. In: STROBL, J. & T. BLASCHKE (Hrsg): Angewandte Geographische Informationsverarbeitung XI, AGIT 99, ISBN 3-87907-336-8: 94-101.

De KOK, R., SCHNEIDER, T. & U. AMMER (1999): Object based classification and applications in the Alpine forest environment. In: Proc. Joint ISPRS/EARSeL Workshop "Fusion of sensor data, knowledge sources and algorithms", Valladolid, Spain, June 3-4, 1999.

De KOK, R., SCHNEIDER, T., BAATZ, M. & U. AMMER (1999): Object based image analysis of high resolution data in the alpine forest area. In: Joint WSf ISPRS WG I/1, I/3 and IV/4: SENSORS AND MAPPING FROM SPACE 1999, Hannover, September 27-30, 1999.

WILLHAUCK, G., SCHNEIDER, T., DE KOK, R. & U. AMMER (2000): Comparison of object oriented classification techniques and standard image analysis for the use of change detection between SPOT multispectral satellite images and aerial photos. In: ISPRS, Vol. XXXIII, Amsterdam, 2000.

De KOK, R., BUCK, A., SCHNEIDER, T. & U. AMMER (2000): Advanced Classification of Remote Sensing Imagery. In: GIM International, December 2000, Volume 14 Number 12: 77-79.

De KOK, R., BUCK, A., SCHNEIDER, T., AMMER, U. & M. BAATZ (2000): Data Fusion with Landsat 7 imagery. In: STROBL, J. et al. (Hrsg): Angewandte Geographische Informationsverarbeitung XII, Beiträge zum AGIT-Symposium Salzburg 1999, Karlsruhe, Herbert Wichmann Verlag: 90-97.

BUCK, A., R. DE KOK, T. SCHNEIDER & U. AMMER (2001): Modular project design for simulating topological rules in object oriented analysis. In: ZGIS & DGPF (Veranstalter): Fernerkundung und GIS. Neue Sensoren – Innovative Methoden. Workshop im Vorfeld der AGIT 2001. Salzburg, 3./4. Juli 2001: 16.

DE KOK, R. (2001): Objektorientierte Bildanalyse. Ein Lösungsansatz für den automatisierten Einsatz sehr hoch auflösender Satellitendaten für forstliche Fragestellungen. Dissertation an der Fakultät für Forstwissenschaft der Technischen Universität München.

MULJANTO NUGROHO, DIRK H. HOEKMAN & ROELAND DE KOK (2002): Analysis of Forest Spatial Structure using Spatial Decision Rule. Presented at ForestSAT Symposium Heriot Watt University, Edinburgh, August 5th-9th of August 2002

DE KOK, R., A. BUCK, T. SCHNEIDER & U. AMMER (2002): Modular project design in object oriented analysis. In: Blaschke, T. (Hrsg.): GIS und Fernerkundung: Neue Sensoren –Innovative Methoden. Wichmann Verlag, Heidelberg: 33-42.

DE KOK, R.; WEVER, T. 2002: Automatische Informationsgewinnung aus einheitlichen Megadatensätzen am Beispiel des IRS-1C / IRS-1D-Mosaiks von Deutschland, in S. Dech et al. (Hrsg.): Tagungsband 19. DFD-Nutzerseminar, 15. - 16. Oktober 2002, S. 105 – 112

DE KOK, R.; WEVER, T.; FOCKELMANN, R.(2003): Procedures for urban mapping using large area data. Vortrag zum eCognition User Treffen 11 april, Germering, org. Geosystems.

DE KOK, R.; WEVER, T.; FOCKELMANN, R.(2003): Analysis of urban structure and development applying procedures for automatic mapping of large area data. In: Carstens, J. (Ed.): Remote Sensing of Urban Areas 2003, p. 41-46.

SCHLEICHER, C., P. KAMMERER, R. DE KOK, T. WEVER (2003): Extrahierung von stabilen Strukturen aus Satellitenbildern zur Klassifizierung von Mosaiken. In: Strobl, J., Blaschke T. & Griesebner, G. (Hrsg.): Angewandte Geographische Informationsverarbeitung XV. Beiträge zum AGIT-Symposium Salzburg 2003, H. Wichmann Verlag, Heidelberg, S. 431-436