Klaus Brüggemann Der QuralitätsBerater

Curriculum Vitae

Diplom-Ökonom Klaus Brüggemann

Senior Consultant for

Quality Management and Systems & Software Process Improvement



Personal Dates and Education

Birthday	16-Mar-1960 in Münster / Westfalen, Germany
Home Address	Augasse 1c, 61194 Niddatal (near Frankfurt am Main), Germany
Phone	+49 6034 907422
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Education

09/1969 – 06/1979	Schlaun-Gymnasium Münster, Abitur / university-entrance diploma
10/1980 – 02/1983	Military Forces University, Study of Informatics, 7 Trimester, without degree
10/1983 — 01/1992	Fernuniversität Hagen, degree in Economics
07/1996	EOQ Quality System Manager
10/2000	EOQ Quality Auditor (ISO 9001:2000)
05/2009	Provisional Automotive SPICE [®] Assessor
09/2009	Certified Professional for Requirements Engineering – Foundation Level
09/2012 – 03/2013	Certified Professional for Requirements Engineering – Advanced Level C&E
11/2015	Certified Professional for Requirements Engineering – Advanced Level RM

Foreign Languages English, written and spoken fluently

Short Profile

I'm working as Consultant for Quality Management and Systems/Software Process Improvement (SPI). My major activities are the consulting of system and software developing enterprises to reach a higher maturity level according to the maturity models CMMI[®], and ISO 15504 (SPICE[®]), as well as according to the RUP[®] and V-Model[®]. I have specialized experiences in the areas of Requirements Management & Engineering (RM&E), Quality Management, and Project Management with metrics. I use moderated self-assessments, seminars, workshops, and appropriate coaching support to help my customers. And I don't hesitate to take over the key activities in a project by myself.

Based on the experiences as Quality Manager in several development projects and enterprises I'm used to take one thing as first priority when implementing any model recommendations: the practical usability of new concepts, so that the developers can gain the expected advantages for their daily work.

I'm showing and sharing my knowledge and experiences in different presentations and workshops at international conferences.

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Business Career (details starting at page 8)	
since 09/2009	Freelancer as Consultant for Quality Management and Process Improvement
08/2005 - 05/2009	Senior Consultant at HOOD GmbH, Germany
12/2001 - 07/2005	Senior Consultant at Q-Labs GmbH Germany (now DNV IT Global Services)
07/1999 – 11/2001	Director Corporate Quality Management EMEA at LHS AG (in 2000 merged into Sema Group, in 2001 merged into SchlumbergerSema, now integrated in Ericsson)
05/1998 - 06/1999	Manager SW Quality Management at GEHE AG, now Celesio AG
07/1991 – 04/1998	Department Leader Software Quality Management at VDO Luftfahrtgeräte Werk GmbH, now Diehl Aerospace GmbH
07/1979 – 06/1991	EDP Officer at the German Air Force, last rank: Captain

Education during the last years

Requirements Management & Engineering (RM&E)	Certified Agile Requirements Specialist, HOOD, 03/2015, 3 days	
Requirements Management & Engineering (RM&E)	Certified Professional for Requirements Engineering - Advanced Level Modeling, HOOD / iSQI, 11/2012, 3 days	
Requirements Management & Engineering (RM&E)	Certified Professional for Requirements Engineering - Advanced Level Elicitation & Consolidation, HOOD / TÜV-Süd, 09/2012, 3 days	
Design for Six Sigma	Green Belt Training (ESSC), Karlheinz Lerch, $6\sigma BT$, 11/2010, 10 days	
Requirements Management & Engineering (RM&E)	Training & Exam as Certified Professional for Requirements Engineering, HOOD / iSQI, Sep 2009, 3 days	
Automotive SPICE	Training & Exam as Automotive SPICE [®] Assessor, KMC, 05/2009, 5 days	
CMMI for Services	Services Supplement for CMMI [®] V1.2, Anywhere24, 04/2009, 1 day	
CMMI Intermediate	Intermediate Concepts of CMMI-DEV [®] V1.2, SEI, 02/2007, 5 days	
CMMI Upgrade	CMMI-DEV [®] Version 1.2 Upgrade Training, 01/2007, Internet Training	
CMMI Introduction	Introduction to CMMI-DEV [®] V1.1, Lamri Ltd., 06/2006, 3 days	
Requirements Management & Engineering (RM&E)	Internal accreditation training, HOOD GmbH, 2005/2006, 9 days "RM&E – Methods" and "RM&E – Writing good Requirements"	
CMMI Advanced Training	Internal CMMI [®] Intermediate Training, Q-Labs GmbH, 2003, 8 days	
Quality Auditor & Manager	EOQ Quality Auditor (2000) & Manager (1996)	
CMM Training	Introduction to the $CMM^{ extsf{e}}$, European Software Institute, 1998, 3 days	

Key Activities:

- Establishing / improving of various process areas (e.g., Requirements Management & Engineering, Project & Quality Management, Verification & Validation) incl. roll-out
- Defining and establishing new development methodologies with corresponding tool support
- Modelling of system architectures in various techniques, like Use Cases, UML, SA, SD
- Establishing of system development approaches (incl. modelling) with all development disciplines
- Introducing and establishing of practical project and organizational metrics
- Performing operational Quality Assurance activities

- Leading / supporting of Process Improvement (PI) projects in several enterprises
- Supporting assessments in several SW developing enterprises according to the established maturity models (CMMI[®] & SPICE[®])
- Defining and establishing processes to develop and qualify safety critical products
- Performing qualification tests for safety critical embedded products
- Performing seminars / workshops in the area of Requirements Management & Engineering, Quality Management, Metrics, Modelling, and Process Improvement, incl. tool support
- Establishing Quality Management Systems

Special I	Special Know-How Areas	
RM&E	I gained experiences on the aspects of Requirements Engineering and Management, Requirements Reusability, Traceability, Risk & Change Management; Tools: DOORS [®] , MKS [®] , HP Quality Center	
Safety / Criticality	During my long business in the avionics industry I've gained intimate Know-How in the safety standards RTCA DO/178-A/B and IEC ISO 61508.	
Metrics	I was working in several projects on the definition and establishment of metrics for progress tracking; special focus was laid on practical handling, usability, and achieving benefits for the metrics owners.	

Selection of projects conducted as consultant:	
Customer	Project Description
GKN Driveline International GmbH, Lohmar 10/2020	Support as Requirements Engineer in an electrical rear axle project for the customer Volkswagen Nutzfahrzeuge with PTC Integrity ^{® ®} ; support on improvement of the RE processes according to ASPICE; support of the ASPICE Core Team to achieve level 1 certification.
Magna Electronics Europe GmbH & Co. OHG, Sailauf 02/2018 – 06/2020	Support as Requirements Lead in a front camera project for the customer BMW AG with PTC Integrity [®] ; support on improvement of the RE processes according to ASPICE
Visteon Electronics Germany GmbH, Karlsruhe, 07/2017 – 04/2018	Support in Migration of DOORS [®] to Rational DOORS Next Generation (RDNG); operational support as Requirements Engineer in several projects for cluster instruments for the customer Volkswagen AG with DOORS [®] ; support on improvement of the RE processes according to ASPICE
Continental Automotive GmbH – I ID S3 AD AP, Babenhausen, 04/2016 – 03/2017	Support as Requirements Engineer in several projects for Display Units (ABT) for the customer Volkswagen AG using a DOORS [®] development database; Support for improvement of the RE process and tool functionality
Porsche AG, Weissach, 04/2015 – 12/2015	 Support on integration of the DOORS[®] development database with the Volkswagen Group database and vice versa Creation of Requirements Specification for Porsche Methodical support of Porsche IT on implementation of mutual access VW Group and Porsche Test of the integration at Porsche
	 Adaptation of the DOORS[®] menu structure for improved usability Transfer of DOORS[®] DXL functions from VW Group to Porsche
Cortal Consors / Consorsbank – BNP Paribas S.A., Nürnberg, 09/2011 – 03/2015	 Support in Quality Assurance and Process Improvement Performing Quality Assurance Reviews in different projects Performing Workshops in Writing and Modelling Requirements with UML (Enterprise Architect) SEPG Coaching to define processes for CMMI[®] Level 3 Introducing HP Quality Center for Requirements Management
HAVI Logistics IS GmbH, Duisburg, 03/2013 – 05/2013	Support in Requirements Management and preparation for User Acceptance Test
Siemens AG, Erlangen, 02/2011 – 03/2013	High Speed Trains: Support for validation of customer requirements with DOORS [®] ; coaching of key-people in process and tool usage
Audi AG & EFS GmbH, Ingolstadt & Wien, 10/2011 – 02/2012	 Consulting on a new concept for Requirements Engineering for Audi Product Marketing VT6: Coaching on Requirements Engineering for the project team of EFS Quality Assurance of the mutually agreed concept proposals
WABCO GmbH, Hannover, 09/2010 – 03/2011	Support in establishing a System Specification for two new braking systems with support of MKS-RM [®] and definition of a concept for structural reuse of functional requirements
Cortal Consors S.A., Nürnberg, 01/2010 – 02/2011	 Support in Quality Assurance and Process Improvement Performing Workshops in Writing Requirements Definition of a roadmap to introduce new requirements engineering methods based on an employee poll Migration of templates into Office 2010 format
NovaTec GmbH, Leinfelden-Echterdingen 02-03/2010	Participation in a SCAMPI A Appraisal on CMMI-DEV [®] V1.2 for Maturity Level 2 as member of the Appraisal Team

Selection of projects conducted as consultant:	
Customer	Project Description
Cortal Consors S.A.,	Support in Quality Assurance and Process Improvement
Nürnberg, 10/2009 – 12/2009	 Performance of Quality Reviews in active projects Establishing of new templates for process monitoring in Excel
MBtech GmbH, Sindelfingen, 11/2009	Participation in a SCAMPI A Appraisal on CMMI-DEV [®] V1.2 for Maturity Level 2 as member of the Appraisal Team
	Definition and establishment of requirements management processes and methods to support a structured reuse of electrical/electronical functional specifications and generation of ECU specifications within VW Group • Responsible for methods development (12 people from 5 companies)
Volkswagen AG, Wolfsburg 06/2006 – 02/2009	Definition of an information model and a corresponding method for implementation with DOORS [®] and system42
	 Definition of a specific handling of versions and variants in method and tool customizations
	Performing workshops, trainings and coaching for the method and tool customizations in pilot projects
	Establishment of Requirements Management & Engineering (RM&E) with DOORS [®] in system development according to CMMI [®] Level 3
SiemensVDO I CM, Babenhausen, 04/2006 – 10/2006	 Improvement of Requirements Engineering and Architecture processes Coaching of Requirements Engineers in using DOORS[®] and in writing good requirements
	Coaching of key people in using improved processes and methods
TRW Lucas Varity, Koblenz,	 Establishment of RM&E with DOORS[®] in software development Workshops for definition of an information model and a SPICE[®] compliant RM&E process
10/2005 – 06/2006	 Implementation of the information model with generic templates in DOORS[®], including attributes and views
	Supporting the SEPG to achieve CMM [®] Level 2
Bosch Rexroth, Lohr am Main, 01/2005 – 02/2006	 Evaluation of current situation and re-planning of the improvement project Common definition, piloting and review of process descriptions Performing self-assessments, management briefings, and reports Coaching of the project leader and supporting the roll-out Establishing a metric program for project progress tracking
SiemensVDO I IP HVAC, Karben, 04/2005 – 01/2006	Establishment of an RM&E approach with $\text{DOORS}^{\circledast}$ in system development according to $\text{CMMI}^{\circledast}$ Level 3
	 Common definition and review of process descriptions Establishing proceedings and procedures in a pilot project Establishing process support with DOORS[®] Coaching of System Architects, Requirements Manager and Test Manager
	 Coaching of System Architects, Requirements Manager and Test Manager Supporting the EPG in general topics Supporting the definition of a metric program for project progress tracking
Robert Bosch GmbH ST, Ottobrunn, 10/2004 – 01/2005	 Supporting the metrics area to achieve CMMI[®] Level 3 requirements Common definition and review of the review process Implementing different information needs regarding error management in cockpit charts

Selection of projects conducted as consultant:	
Customer	Project Description
Robert Bosch GmbH FV, Schwieberdingen, 2002 – 2005	 Establishing of Measurements in several development areas Defining and performing trainings for measurements Defining a measurements kit with 9 cockpit charts for CMM® Level 2 Definition of a generic measurement process Definition of a generic ROI building kit Coaching of several Bosch areas in using the measurements building kit Enhancement of the measurement kit (45 charts, 11 cockpits) to support the different areas of CMMI® Level 3 Supporting Bosch working groups in Measurement and Project Mgmt.
Bosch Engineering AS, Tamm, 12/2003 – 12/2004	 Supporting the SEPG to achieve CMMI[®] Level 2 Supporting the SEPG in general topics Performing Workshops to define processes Documentation of the processes Establishing a metric program for project progress tracking with information elicitation and measurement process definition Performing self-assessments Writing PIIDs (Process Implementation Indication Documents) as appraisal preparation
Harmann Becker, Karlsbad, 2004	 Supporting the build-up of a Requirements Service Center Establishing metrics for tracking requirements Adaptation of project cockpit charts regarding metric owner requirements
Bosch Engineering SF, Möglingen, 2003	 Supporting the SEPG to achieve CMMI[®] Level 2 Supporting the SEPG in general topics Supporting process definition and roll-out of Project Management Coaching of pilot Project Leaders Supporting the introduction of estimates and size measurements Tracking of size measurements
Bosch ETAS, Stuttgart, 2003	 Supporting the SEPG Workshop to align the SPI initiative with the organization goals Technical support of performing a ROI analysis of the development cost after achieving Level 2
Q-Labs GmbH internal, 2002 – 2005	 Establishing a Quality Management System for a consulting organization and Certification according to DIN EN ISO 9001:2000 Definition and Establishing of the business processes Documenting the processes in a Lotus Notes database Performing of internal audits and supporting the external audits Leading the QM-Team in Germany; coordination with other countries Maintaining the Lotus Notes databases for quotations and time reporting
Volkswagen AG, Wolfsburg, 2002 – 2003	 Supporting the build-up of a Project Control Office (PCO) Documenting the processes of the PCO Supporting the definition of cockpit charts Supporting various supplier projects
ZF-Lenksysteme, Schwäbisch-Gmünd, 2/2002 – 5/2002	Supporting the definition of improvement activities after a SPICE Assessment and the definition of an integration concept
BMW AG, München, 10/2001 – 01/2002	Supporting the start of a BMW internal improvement initiative according to CMMI [®] , focusing on Quality Management and System Integration

Selection of projects conducted as trainer:	
Customer	Project Description
Aldi-Süd International Services GmbH & Co. KG, Mülheim a.d. Ruhr, 01/2020	Performing a preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in German, 3 days
Pässler AG, Nürnberg, 10/2018	Performing a preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in German, 3 days
iba s.a., MAS-PT, Louvain-la-Neuve, Belgium, 05 & 11/2016, 01/2019	Performing several preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English, 3 days each
Volkswagen AG, Baunatal, 10/2018	Performing a training Requirements Engineering & Management (RM&E) with IBM DOORS [®] in German, 2 days
Continental Temic Microelectric, Ingolstadt, 01/2016	Customer specific adaptation and performance of a training "Requirements Management & Engineering for Systems and Software Development" in English, 2 days
Texas Instruments, Freising, 01/2016	Customer specific adaptation and performance of a training "Requirements Management & Engineering for Systems and Software Development" in English, 2 days
Deutsche Accumotive GmbH, Kirchheim unter Teck, 11/2015, 09 & 10/2016, 02 & 11/2017	Performing several preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level", 3 days each
Aldi-Süd , Mühlheim a.d. Ruhr, 10/2015	Performing a preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level", 3 days
Liebherr Machines, Bulle (CH), 04/2015	Performing a compact training and a preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English, 2 and 3 days
Forschungszentrum Informatik, Karlsruhe, 12/2014 – 02/2015	Performing several preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level", 3 days each
Audius GmbH, Weinstadt, 10/2014	Performing a training "Requirements Management & Engineering for the IT Industry", 2 days
Schaeffler KG, Herzogenaurach, 03/2014 – 07/2014	Performing several preparation trainings for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level", 3 days each
Johnson Controls, Hannover, 04/2014	Performing a 3 day preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English Performing a "DOORS [®] User Training" in English, 1 day
Deutsche Automobil Treuhand - DAT, Ostfildern, 04/2014	Performing a training "Requirements Management & Engineering in the IT- Industry", 2 days
Bank of Scotland, Berlin, 02/2014	Performing a 3 day preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English
AREVA AG, Erlangen, 10/2013	Performing a Training "Writing Good Requirements", 1 day
Elekta Medizintechnik, Schwabmünchen, 07/2013 – 09/2013	Performing a 3 day preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English Performing a Workshop for Good Use of DOORS [®] , 1 day
Dräger AG, Lübeck, 08/2013	Performing several Trainings "DOORS [®] User", 2 days each

Selection of projects conducted as trainer:	
Customer	Project Description
Hilti AG, Schaan, Liechtenstein 07/2012	Performing a Training "DOORS [®] Advanced User", 1 day
VW Coaching GmbH, & Audi Akademie, Wolfsburg, Ingolstadt, 06/2007 – 12/2012	 Performance of Trainings and Workshops (1 per month/quarter) RM&E: Basics and DOORS[®] (2 days) DOORS[®] Basics (1 day) DOORS[®] Best Practices Workshop (1 day)
Prodyna AG, Eschborn, 12/2011	Performing a 3 days preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English
Sogeti Deutschland, Düsseldorf, 07/2011	Performing a 3 days preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English
Postfinanz AG, Bern (CH), 05/2011 – 09/2011	Performing a 3 days preparation training for the IREB Certification "Certified Professional for Requirements Engineering - Foundation Level" in English; Performance of workshops on writing good requirements, 1/2 day
Deutsche Bahn AG München, 12/2010	Performing a training "DOORS [®] for User" and a Workshop "DOORS [®] for Administrator", 1 day each
TRW Lucas Varity, Koblenz, 05/2008 – 12/2008	Performance of different workshops to strengthen the awareness for Requirements Management and Engineering (RM&E) in development area• RM&E Awareness Workshop• DOORS [®] Basic Workshop

Presentations & Wor	Presentations & Workshops given at International Conferences		
20-Mai-2014, Iqnite	Forum Workshop:		
Europe, Düsseldorf	Erkennen Sie die Risiken in Anforderungen - bevor sie Probleme werden		
14-Jan-2014, Software	Tutorial:		
Quality Days, Wien	Erkennen Sie die Risiken in Anforderungen - bevor sie Probleme werden		
18-Jan-2011, Software	Tutorial:		
Quality Days, Wien	"Erkennen Sie die Risiken in Anforderungen – bevor Sie sie umsetzen"		
16-Sep-2009,	Tutorial:		
CONQUEST, Nuremberg	"Writing Software Requirements – Excellence is not difficult"		
28-May-2009, Software & System Quality Conference, Düsseldorf	Workshop: "Gute Anforderungen schreiben – Ein praktikabler Weg zu Excellence"		
20-Jan-2009, Software	Tutorial:		
Quality Days, Vienna	"Spezifizieren von Anforderungen – mit einfachen Mitteln zu Excellence"		
15-Apr-2008, Software & System Quality Conference, Düsseldorf	Tutorial: "Spezifizieren von Anforderungen – Ein praktikabler Weg zu Excellence"		
25-Apr-2007, Software & System Quality Conference, Düsseldorf	Workshop: "Spezifizieren von Anforderungen, aber wie?"		
28-Sep-2005, 3 rd World	Paper & Presentation:		
Congress on Software	"A Practical Successful Implementation of the CMMI Process Area		
Quality, Munich	'Measurement & Analysis'"		
15-Jun-2005, ESEPG,	Paper & Presentation (not presented by myself): "A Practical Successful		
London	Implementation of the CMMI Process Area 'Measurement & Analysis'"		
21-Sep-2001, CONQUEST, Nuremberg	Paper & Presentation (not presented due to illness): "The Dashboard – a long an d winding road for implementing a metrication program"		
26-Sep-1997,	Paper & Presentation: "Software Quality Management in the Avionics		
CONQUEST, Nuremberg	Industry – Between Paradise and Pillory? – What is the state of the art?"		

Professional Career:	
Period	Company, Position, Description of Tasks
09/2009 – today	Freelancer as Consultant for Quality Management and Process Improvement
08/2005 – 08/2009	HOOD GmbH, Oberhaching (with Home-Office in Niddatal); a consulting company for establishing and improving processes for Requirements Management and Engineering (RM&E)
	Senior Consultant, reporting to the General Manager. List of tasks included:
	 Methodical leadership of a project (12 people from 5 companies) at Volkswagen AG to establish a new approach for functional RM&E
	 Support of system development at Bosch Rexroth with achieving SW-CMM[®] Level 2
	 Support of system development at Siemens VDO I/IP HVAC with achieving CMMI[®] Level 3 for RM&E area
	 Development and Performance of trainings for RM&E and tools
12/2001 – 07/2005	Q-LABS GmbH (later DNV IT Global Services) , Stuttgart (with Home-Office); a worldwide consulting company for implementing and improving of development processes of products containing software (focus: automotive)
	Senior Consultant, reporting to the Operating Manager. List of tasks included:
	 Consulting of companies according to CMM[®], CMMI[®] und SPiCE[®], with special attendances to Quality Assurance, Project-Management, Metrics and Test
	 Process improvement projects performed at BMW, Volkswagen, SiemensVDO Automotive, ZF Lenksysteme, Harman/Becker, various parts of Bosch
	 Development of generic processes / tools in the metrics area to observe and control project status; this measurement construction kit has been successfully introduced several times in different companies
	 Technical implementation and responsibility of the internal QM system
	 Coordination of the consultancy in the area of Software Safety (e.g., IEC 61508, SW-FMEA)
07/1999 – 11/2001	LHS Verwaltungs GmbH & Co. Projekt KG (now Ericsson), Dreieich; world leading supplier for billing and customer care products in the telecoms industry
	Director Corporate Quality Management EMEA, reporting to the Vice President Quality Management, full responsibility of 3-5 inferiors. List of tasks included:
	• Worldwide coordination of all Y2K activities (Europe, Asia, Africa, America)
	 Enhancing the software quality management system to support the local, operational management
	Harmonizing different business processes for several departments
	 Coordination of a CMM[®] based assessment and definition of improvement projects based on the assessment results
	Performing internal and external audits according to ISO 9001
	Coaching and training on methods in software engineering
	Establishing a metric program for product and process quality
05/1998 – 06/1999	GEHE Informatik Services GmbH & Co. KG (GEHIS), Stuttgart, affiliate of GEHE AG, now CELESIO AG, (pharmacy wholesale) with development sites in France, England and Germany
	Software Quality Assurance Manager for international application development, reporting to the development director, no inferiors. List of tasks included:
	 Establishing and maintaining a software quality management system
	Performing reviews and inspections in development projects
	 Coaching and training on new methods in software engineering
	 Coordination on CMM[®] trainings, participation in a CMM[®] assessment
	 Defining an improvement program to achieve CMM[®] maturity level 2

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Professional Career:	
Period	Company, Position, Description of Tasks
07/1991 – 04/1998	 VDO LUFTFAHRTGERÄTEWERK GmbH (now Diehl Aerospace), Frankfurt, supplier of the avionics industry. Head of Software Quality Management; reporting to the head of Quality Management; full responsibility of 4 inferiors. List of tasks included: Establishing a software quality management system for civil and military embedded product development Definition of development processes, coaching and training on new methods and tools Certification according to AQAP-13, ISO 9001 and ISO 9000 part 3 Performing internal and external audits Definition and coordination of quality assurance plans with customers Performing reviews and inspections in development projects Release of products with embedded software according to DO-178 A/B Performing test coverage measurements for safety critical embedded real-time software with Logiscope[®] Certification of a code generator with international avionic authorities
07/1979 – 06/1991 1979 – 1983	Military: Air Force Officer (last rank: Captain) Basic Education, Officers School, Study at the University of the Armed Forces (Informatics, without degree)
1983 – 1987 1987 – 1991	 EDP Officer in the government agency for EDP und telecommunications without inferiors. List of tasks included: Development of a system design for the Command Control and Information System of the German Air Force, Comparison and design of databases Review of software designs and software prototypes Participation at the selection of the CASE tool for documentation of the software for the TORNADO aircraft EDP Officer in an international programming center with full responsibility for 4 inferiors. List of tasks included: Establishing and Leading a department for UNIX systems Definition of a concept for the use of UNIX systems in the Air Force network Support of the ADP Security Officer of the German Air Force regarding the security of UNIX systems Development of security software and office applications Review and verification of software developed by industry partners for various military purposes (tactical combat training of pilots, computer aided interpretation of reconnaissance pictures, military message transfer) As interims head of a military unit in full responsibility of 240 inferiors and 40 civil employees