

1. **Family Name:** Lutovac
2. **First Name:** Dejan
3. **Date of Birth:** January 1, 1960
4. **Nationality:** Serbian, Australian
5. **Civil Status:** Married
6. **Education:** Doctor of Electro-technical Sciences

<b>Institution, Date (from – to)</b>	<b>Degree(s) or Diploma(s) obtained:</b>
Belgrade University, Faculty of Electrical Engineering, 1999	PhD in Electronic Engineering, Diploma No. 10208, November 25, 1999
Belgrade University, Faculty of Electrical Engineering, 1984 – 1988	MSc in Electronic Engineering, Diploma No. 2574, September 29, 1988
Belgrade University, Faculty of Electrical Engineering, 1978 – 1983	BSc in Electronic Engineering, Diploma No. 1442, July 5, 1983

#### 7. Language skills:

- **Serbian (Montenegrin)** – native language
- **English** – full business proficiency (reading, speaking, writing)
- **Russian** – full business proficiency (reading, speaking, writing)
- **Croatian, Bosnian** – full business proficiency (reading, speaking, writing)

#### 8. Membership of professional bodies:

- **Member of IRSE, UK**, from April 22, 1993
- **Member of the Serbian Chamber of Professional Engineers**
  - Chartered Engineer (CEng in Electronic Engineering):
  - Passed professional exam at Chamber of Commerce and Industry of Serbia, June 13, 1990, Certificate No. 3293/E
- **Licenses:**
  - 352 D503 06 – Responsible designer of electromotor systems, automation, measurements and regulations
  - 353 D502 06 – Responsible designer of telecommunications networks and systems
  - 453 A136 06 – Responsible contracting engineer of telecommunications networks and systems
- **Member of the Institution of Scientist, Serbia**
  - Elected for the science title: Science Researcher, Certificate No. 06-00-6/1666, December 26, 2000

#### 9. Business related skills:

- **Secure:** throughout the day, Corporate Security and Information Security Certificate, June 18, 2012, Siemens AG, Germany
- **Protection against Social Engineering,** Corporate Security and Information Security Certificate, October 28, 2011, Siemens AG, Germany
- **Business Conduct Guidelines,** Corporate Legal and Compliance Certificate, December 22, 2011, Siemens AG, Germany
- **Global Competition,** Corporate Legal and Compliance Certificate, December 22, 2011, Siemens AG, Germany
- **Global Bribery and Corruption Awareness,** Corporate Legal and Compliance Certificate, October 2, 2007, Siemens AG, Germany

- Business communication, protocols and negotiations Certificate, Belgrade, June 13-14, 2011, Europrotocol, The European School of Protocol

#### 10. Project Management - PM related skills:

- Promote PM Program participation confirmation, May 22, 2007, Primas Consulting, Vienna. PM training conducted from November 9, 2006 to May 22, 2007
- PM @ Siemens Certificate, Project Management the Siemens way, December 11, 2007, Siemens AG, Germany
- Limits of Authority (LoA), Accounting Training Certificate, Munich, January 28, 2008, Siemens AG, Germany
- Application of FIDIC contracts conditions Certificate, Belgrade January 21-22, 2010, Consulting house YU Build Ltd.

#### 11. Competency Certificates and Specialised Training:

- **Certified designer of computer-based railway interlocking systems:**
  - WESTRACE System Design, Certificate of Competency, No. 1327, Invensys (Westinghouse B&S, Signal Division), Melbourne, Australia, June 28, 1996
  - SIMIS W Software Development (GRACE Tools) Certificate, Siemens AG, Germany, November 9, 1998 – December 18, 1998
- **Specialised training courses:**
  - Specialised training course from new railway technologies in UK at the following companies / institutions: Railway Industry Association, GEC Alston Signalling Limited, Westinghouse Signals, London, British Rail Research Institute, Derby and Department of Electronic & Electrical Engineering, University of Leeds, November 5.11.1990 – December 20, 1990

#### 12. Other Skills:

- **PLC systems, hardware and programming**
  - Simatic hardware and Step 5 and Simatic Step 7 software, Siemens AG, Germany
  - HiMax and HiMatrix hardware and SilworX software, HIMA, Germany.
- **Programming Languages:**
  - Fortran, Basic, Pascal, Assembler
- **Design and simulation on PC:**
  - OrCAD, PCAD, MCAP and EPLAN
- **PC related software:**
  - DOS, Microsoft windows, Microsoft Office (Word, Excel, Power point, Project)
- **Drawing license:**
  - B category

#### 13. Awards and recognitions:

- National Rail Australia, Recognition plate, for contributions in realisation of Gauge Standardisation Project (National Rail, Australia), 1995
- IRSE, Recognition plate, for paper presented on IRSE International conference, Tasmania, 1996
- Winner of the 8<sup>th</sup> tender for the best PhD dissertation from the field of technical sciences for year 2000, "Zaduzbina Andrejevic", Belgrade, Serbia. Published book

#### 14. Key Qualifications:

- 30 years world-wide experience in Railway Signalling
- 14 years of Management experience in different countries at various positions: Director (CEO), Technical Director, Sales Manager, Technical Manager, Design Manager, etc.
- Head of numerous projects (Project Manager) in Railway Signalling field
- Main and Responsible Engineer (design, checking, testing and the execution)

- 15 years with Siemens (Australia, Germany, Austria and Serbia)
- System support for Siemens world-wide market, proposal of the optimal signalling system configuration for the specific country, for example: Uzbekistan, South Africa, and Taiwan
- Complete technical and commercial evaluation of the signalling market and possibilities for expansion in a specific country and a proposal of the complete strategy for the approach and business expansion to the general management, for example China and Australia

**15. Specific Regional Experience:**

Country	Date (from – to)
Serbia, Macedonia	October 1, 2012 - Present
Serbia	April 1, 2006 – September 30, 2012
Australia, Germany, Austria, Norway, GB, Russia, Uzbekistan, China, Indonesia, Thailand, Taiwan, South Africa, Egypt, Slovenia, Serbia, Montenegro.	September 14, 1992 – March 30, 2006
Former Yugoslavia (Serbia, Montenegro, Bosnia & Herzegovina, Macedonia, Croatia and Slovenia)	December 5, 1983 – August 31, 1992

**16. Professional Experience:**

**Signalling & Control Ltd**  
Banka Krsmanovca 20  
11000 Belgrade, Serbia

**October 1, 2012 - Present****Director (CEO)****June 1, 2013 - Present**

- Complete organisational, commercial and technical executive responsibility for the company and projects
- Technical and commercial management, organisation and development of the company as a profitable company
- Management, organisation and optimisation of the business process, supervision and management of all business activities, implementation and maintenance of the relevant local and international standards
- Increase of business and commercial efficiency and risk assessment and risk minimisation in the aim to increase volume and profit
- Technical, commercial and disciplinary leader of the company
- Selection and development of the management, technical and commercial personnel
- Coordination of business teams to increase internal cooperation and avoid potential conflicts
- Creation and coordination of complete business strategies and plans
- Management, organisation and creation of the technical offers for the customers, management, organisation and creation of the final offers to the customers, analyses of the success on the called tenders in the aim to optimise the technical compliant and increase number of competitive profit oriented offers
- Technical and commercial negotiations with the customers and customers support
- Organisation and supervision of marketing activities for signalling products
- Project management and realisation of the signalling projects on time and under budget
- Management, organisation and coordination of subcontractors
- Main and responsible designer and main and responsible work executor in accordance with law of Serbia

**Technical Director****October 1, 2012 - May 31, 2013**

- Technical management and supervision of the development, design, implementation and realisation, safety analyses, testing and commissioning and after sales support and maintenance of the signalling products

- Organisation and the management of the approval process and obtaining approval for use certificates for signalling products, issued by the Directorate of Railways, Republic of Serbia
- Project management and complete organisation and realisation of turnkey signalling projects including conventional relay technology and computer-based technology (reconstruction of railway lines, interlocking projects, MMI, level crossing projects, component business, etc.)
- Responsible designer and responsible contracting engineer (realisation of the design) under law of Republic of Serbia
- Development of the technical personnel

**SIEMENS Ltd. Belgrade**

**April 1, 2006 - September 30, 2012**

Omladinskih brigada 21  
11070 New Belgrade, Serbia

**Sales Manager**

**May 1, 2009 - September 30, 2012**

(Infrastructure and Cities, Mobility and Logistic)

- Sales management for railway signalling infrastructure contracts (projects) including market assessment, analyses, strategies, planning, risk management and tendering
- Optimisation of the sales activities and processes in accordance with Siemens procedures, compliance, quality standards and good international practice in the aim of increasing sales volume and improve satisfaction of the market requirements and local law regulations
- Negotiations with the customers and business partners and contracts preparation
- Main and responsible engineer for realisation of turnkey signalling projects (under obtained license of the Ministry of Serbian Government) and Project manager (under Siemens LoA procedures and internal Siemens PM certificate)
- Management of turnkey signalling projects: optimisation, organisation and realisation on time and under budget in accordance with: local Serbian law, Siemens internal PM procedures and standards and FIDIC standards (red and yellow books).

**Technical Manager (Level Crossing Centre)**

**April 1, 2006 – April 30, 2009**

- Technical and disciplinary leader of the Level Crossing Centre
- Reports to general manager
- Management, organization and development of the Level Crossing (Signalling) department as a profit centre at the Siemens d.o.o. Belgrade
- Optimisation of the business process in signalling field
- Creation and coordination of business strategies and plans
- Transfer of the production, sales and maintenance of signalling products from Siemens AG Germany to Siemens d.o.o Belgrade
- Technical and sales management and supervision of the development, design, implementation and realisation, safety analyses, testing and commissioning and after sales support and maintenance of the signalling projects
- Organisation and the management of the approval process and obtaining approval for use certificates for signalling products, issued by the Directorate of Railways, Republic of Serbia
- Management and organization of the necessary licenses for the products and licenses for the Level Crossing Centre (Siemens d.o.o. Belgrade) under law of Serbia
- Responsible designer and responsible contracting engineer (realisation of the design) under law of Republic of Serbia
- Management and organisation of marketing activities for signalling projects: market analyses, market entry, obtaining of the market share and market expansion
- Analyses the called tenders and preparation of the technical compliant and competitive oriented offers
- Management, organisation and creation of the technical offers for the customers
- Management, organisation and creation of the final offers to the customers together with the commercial partner
- Technical negotiation with the customers and customers support
- Project management and complete organisation and realisation of turnkey signalling projects including conventional relay technology and computer-based technology

(reconstruction of railway lines, interlocking projects, MMI, level crossing projects, component business, etc.)

- Management, organisation and coordination of subcontractors in the projects
- Realisation of the customer contracts (projects) on time and under budget

**SIEMENS Ltd. Australia,  
Transportation Systems**

**April 14, 1997 - March 31, 2006**

885 Mountain Highway, Bayswater, Melbourne,  
Victoria 3153, Australia

**Design Manager**

**2004 - March 31, 2006**

- Technical management and supervision of the development, design, realisation, testing and commissioning of the signalling products and projects.
- Project Leader, Responsible Designer, Principal Tester In-Charge and Responsible Work Executor in accordance with Governmental law.

**Senior Engineer Signalling**

**April 14, 1997 - 2004**

- Responsible for technical support, definition of technical, functional and safety requirements, customized system solutions and adaptation of Computer Based Interlocking Systems and other signalling systems (from Siemens) for the world market
- (Delegated to Braunschweig, Germany from 1998, Delegated to Belgrade, Serbia from 2000, including support of Siemens Austria business in Slovenia and Serbia)

**CONNELL WAGNER PTY LTD  
Railway Signalling Department**

**September 14, 1992 – April 11, 1997**

60 Albert Road, Melbourne,  
Victoria 3205, Australia

**Senior Signal Design Engineer**

**1994 – April 11, 1997**

- Project leader for various turn key projects
- Responsible Designer and Principal Tester in-charge for various projects
- Detailed design, checking, testing and commissioning of various signalling projects
- Tender evaluation
- Factory acceptance tests and factory witnessing on behalf of the end customer
- Development of the software design tools.

**Signal Design Engineer**

**September 14, 1992 - 1994**

- Design and checking of various signalling projects.

**RAILWAY RESEARCH INSTITUTE “KIRILO SAVIC”**

**December 5, 1983 - August 31, 1992**

Vojvode Stepe 51

11000 Belgrade, Serbia

(Until December 31, 1985 company name was **Railway Institute**)

**Head of Safety Systems Department**

**1991 - August 31, 1992**

- Technical and commercial management, coordination and supervision of the four subordinated teams (for interlockings, level crossings, control panels and signalling components) for the realisation of the signalling projects through all phases, from feasibility studies, through design and development, factory production of the prototypes and serial products, FAT, SAT and put in operation
- Technical and commercial PM responsibility for the realisation of the projects on time and under budget

- Management and supervision of the sub-contractors and optimisation of the costs, time and resources
- Main and responsible work executor in accordance with the Government law
- Headed design, checking and testing of various Conventional and Computer-based Interlocking Systems and Level Crossings. Final testing and delivery to the authorised Government commissions put I operation, supervision of the operation under traffic and carrying out the necessary modifications in the aim to satisfy the user requirements and optimise the total performances
- Headed an expert team formed to prepare The Technical Rule and Regulation for New Technology Interlocking and ATP Systems for the National Railway

**Head of High Reliability New Technology Sector****1989 – 1991**

- Technical Management of the development of high reliability devices in a solid-state technology for the railway signalling, especially the station interlockings and the level crossings
- Heading of the safety analysis and the certification and approval process of new technology products for the use under the railway environments

**Senior Research Engineer – Electronics****1986 - 1989**

- Supervision of a team of the technicians, electricians and electro-mechanic technicians, responsible for the construction of the signalling equipments, including the installation of the remote terminal units
- Design, testing and FAT, installation and SAT of the various signalling systems: interlockings, level crossings, power supply systems, indication panels, conventional insulated and AFI track circuits, earthing and other components for the National Railway. Realisation of the appropriate technical documentation, specifications and spread sheets
- Needs analyses and preparation of the detailed specifications and budget options for all aspects of the projects for tenders and / or subcontractors
- Analysis and comparison of the various points heating systems, which are in service on the National Railway network

**Research Engineer – Electronics****December 5, 1983 - 1986**

- Design, checking, testing and commissioning, put in operation of various signalling products and systems
- Applied computers to the design of the appropriate parts of the signalling system and for the presentation of the various electrical circuits. Control table design. Designed a bonding plans and earthing. Designed a central cable plans for the integration of peripheral units. Design of the control indication panels. Designed, constructed and installed power supply equipment to feed the interlocking equipment and systems
- Development of new products, testing in laboratory and on sight. Realisation of the Product Documentation
- Developed and realized a model of an Electrical Relay Interlocking System for National Railway, on the free wiring principle and testing under laboratory and operation conditions. Designed and constructed the alpha-numerical control equipment
- Certification and approval of the various railway products and systems
- Responsible for maintenance, modification and testing of electronic equipment
- Supervision of the work schedules and optimisation of the working results for the subordinated personnel

## 17. Professional Work:

Realised Projects:

Date (from – to)	Location	Company	Position	Description
August 2014 – September 2014	Skopje, Macedonia	Signalling & Control Ltd.	Project Leader, Principal Tester, Responsible Work Executor	Realisation, FAT testing, delivery and SAT of the Electronic Level Crossing System – ELC (Signalling & Control Ltd.), in the outside cabinet with traffic lights synchronization for the level crossing “Bulevar Boris Trajkovski”, Skopje, Macedonia, on the Industrial railway line of Cement Factory USJE, Skopje, Macedonia.
July 2014	Skopje, Macedonia	Signalling & Control Ltd.	Responsible Designer	The Installation Project for the Electronic Level Crossing System – ELC (Signalling & Control Ltd.), in the outside cabinet with traffic lights synchronisation for the level crossing “Bulevar Boris Trajkovski”, Skopje, Macedonia, on the Industrial railway line of Cement Factory USJE, Skopje, Macedonia.
April 2014 – May 2014	Subotica, Serbia	Signalling & Control Ltd.	Principal Checker	Monitoring and periodical checking of the Data Logger for ERC on ELC prototype in Subotica.
April 2014	Belgrade & Subotica, Serbia	Signalling & Control Ltd.	Project Leader, Principal Developer	Data logger for the ERC – Electronic Rail Contact (Signalling & Control Ltd., Belgrade, Serbia). Development, design, prototype realization, testing and installation at testing location, 2014. Standard solution from year 2014.
March 2014	Belgrade, Serbia			Data logger for the Audio Frequency Track Circuits, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location, 2013. Standard solution from year 2013.
April 2013 - March 2014	Subotica, Serbia	Signalling & Control Ltd.	Principal Checker	Monitoring and periodical checking (once per month) during the Probation work (one year) of the Prototype of the Electronic Level Crossing System – ELC (Signalling & Control Ltd.), with switch-on and switch-off elements Electronic Rail Contacts – ERC (Signalling & Control Ltd.) with the Approval Commission. User Permit obtained from the Directorate of Railways SR in March 2014.
April 2013	Subotica, Serbia	Signalling & Control Ltd.	Project Leader, Principal Tester, Responsible Work Executor	Supply, installation and testing on sight of the Prototype of the Electronic Level Crossing System – ELC (Signalling & Control Ltd.), with switch-on and switch-off elements Electronic Rail Contacts – ERC (Signalling & Control Ltd.), on the test sight: level crossing “Strazara 1” at km. 129+545, Subotica, on the line Vinkovci – Bogojevo – Sombor – Subotica, for certification and approval purposes under monitoring of Directorate of Railways, Republic of Serbia and Commission of the Public Enterprise Serbian Railways.
April 2013	Belgrade, Serbia	Signalling & Control Ltd.	Principal Safety Assesor and Validator	Conventional Safety Analyses of the Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. For the purposes of the Certification and Approval process on Serbian Railways under responsibility of the Directorate of Railways of Republic of Serbia.

March 2013	Belgrade, Serbia	Signalling & Control Ltd.	Responsible Designer	The Installation Project for the Prototype of the Electronic Level Crossing System – ELC (Signalling & Control Ltd.), with switch-on and switch-off elements Electronic Rail Contacts – ERC (Signalling & Control Ltd.), on the test sight: level crossing “Strazara 1” at km. 129+545, Subotica, on the line Vinkovci – Bogojevo – Sombor – Subotica.
February 2013	Belgrade, Serbia	Signalling & Control Ltd.	Project Leader, Principal Developer	SMS Diagnostic System for Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location. Certification and Approval process completed. Standard solution from year 2014.
January 2013				Service & Diagnostic and Event Recording System for Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location. Certification and Approval process completed. Standard solution from year 2014.
December 2012				System (hardware and software) for measuring the approaching train speed and the approaching train distance. The application for constant warning time functionality for Electronic Level Crossing System ELC (Signalling & Control Ltd.). Development, design, prototype realization, testing and internal FAT completed. Belgrade, 2014.
October 2012 - December 2012				Development and realization of the Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location. Certification and Approval process completed. User permit for use on Serbian Railways obtained from Directorate of Railways of Republic of Serbia in March 2014. Standard solution from year 2014.
July 2012 - September 2012	Serbia	Siemens Ltd. Belgrade	Project Leader	Supply of the 100 complete of the two out of two (duplicated) switch-on / switch-off equipment with electronic accessory for punctual detection of the railway vehicle on the track in the aim of activation/deactivation of the relay based level crossings of type: FÜ60, Siemens, for Public Enterprise Serbian Railways.
July 2011	Kosjeric, Serbia	Siemens Ltd. Belgrade	Responsible Designer	As Inbuilt Project and The Installation Project for the level crossing “Titan” at km. 1+357 on the industrial track of “Titan – Concrete Factory, Kosjeric”.
June 2011	Kosjeric, Serbia	Siemens Ltd. Belgrade	Project Leader, Principal Tester, Responsible Work Executor	Reconstruction and rising of the safety equipping level on the level crossing at km. 1+357 on industrial track of “Titan – Concrete Factory, Kosjeric. Turnkey project (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
August 2010	Kovačica, Serbia	Siemens Ltd. Belgrade	Responsible Designer	As Inbuilt Project and The Installation Project for the level crossing “Kovacica” at km. 53+735, on the line Pancevo main station - Zrenjanin - Kikinda – Border of Romania, Public Enterprise Serbian Railways.
June 2010	Tomaševac, Serbia			As Inbuilt Project and The Installation Project for the level crossing “Tomasevac” at km. 59+641, on the line Pancevo main station - Zrenjanin - Kikinda – Border of Romania, Public Enterprise Serbian Railways.
April 2010	Niš, Serbia			As Inbuilt Project and The Installation Project for the level crossing “Matejevac” at km. 10+261, on the line Nis - Crveni krst - Zajecar – Prahovo, Public Enterprise Serbian Railways.



September 16, 2008 - September 6, 2010	Batajnica, N. Pazova, S. Pazova, Golubinci, Serbia	Siemens Ltd. Belgrade	Project Leader, Principal Tester, Responsible Work Executor	<p>II Railway Rehabilitation Project, EIB financed – Supply of the equipment and execution of work on reconstruction and upgrading of the signalling interlocking facilities on “Batajnica – Golubinci” section of Belgrade - Sid – Border of Croatia railway line (Republic of Serbia, Public Enterprise Serbian Railways, Project of the railway renew No. 2, financed by EIB).</p> <p>Project was a large turnkey signalling project, which included complete electrical reconstruction of 4 railway stations and automatic blocks (in conjunction with civil reconstruction) of the railway section with several safety systems: conventional relay interlocking and level crossing systems and computer-based MMI and Level Crossings, Power Supply Systems, Points Heating Systems, Telecommunication systems and other inside and outside signalling equipment).</p>
September 2010	Mokra Gora, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing “Mokra Gora” at km. 269+576, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
July 2010	Kovačica, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turn key project, on level crossing “Kovacicica” at km. 53+735, on the line Pancevo main station - Zrenjanin - Kikinda – Border of Romania, Public Enterprise Serbian Railways,. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
May 2010	Tomaševac, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing “Tomasevac” at km. 59+641, on the line Pancevo main station - Zrenjanin - Kikinda – Border of Romania, Public Enterprise Serbian Railways,. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
March 2010	Niš, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing “Matejevac” at km. 10+261, on the line Nis - Crveni krst - Zajecar – Prahovo, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
January 2010	Belgrade, Serbia	Siemens Ltd. Belgrade	Principal Developer	SMS Diagnostic System for the Economical computer-based level crossing system LCLC-DL2000 (Siemens AG), Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations. Standard solution from year 2010.
December 2009	Klenje, Serbia	Siemens Ltd. Belgrade	Responsible Designer	The Installation Project for the level crossing “Klenje” at km. 26+905, Public Enterprise Serbian Railways, Serbia.
June 2009	Mokra Gora, Serbia			As Inbuilt Project and The Installation Project for the level crossing “Mokra Gora – 9th km” at km. 268+844, Public Enterprise Serbian Railways.
April 2009	Knic, Serbia			The Installation Project for the level crossing “Knic” at km. 48+142, on the line Lapovo – Kraljevo – Djeneral Jankovic – Border of Macedonia, Public Enterprise Serbian Railways.
June 2009 – September 2009	Belgrade, Serbia	Siemens Ltd. Belgrade	Project Leader and Responsible Checker	The Installation project of EMMI for railway station “Batajnica”, EIB financed Tender No. 2. – Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling systems on the section “Batajnica – Golubinci” of the railway line Belgrade - Sid – Border of Croatia (Republic of Serbia, Public Enterprise Serbian Railways).

				<p>The Installation project of EMMI for railway station "Golubinci", EIB financed Tender No. 2. – Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling systems on the section "Batajnica – Golubinci" of the railway line Belgrade - Sid – Border of Croatia (Republic of Serbia, Public Enterprise Serbian Railways).</p> <p>The Installation project of EMMI for railway station "Nova Pazova", EIB financed Tender No. 2. – Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling systems on the section "Batajnica – Golubinci" of the railway line Belgrade - Sid – Border of Croatia (Republic of Serbia, Public Enterprise Serbian Railways).</p> <p>The Installation project of EMMI for railway station "Stara Pazova", EIB financed Tender No. 2. – Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling systems on the section "Batajnica – Golubinci" of the railway line Belgrade - Sid – Border of Croatia (Republic of Serbia, Public Enterprise Serbian Railways).</p>
November 2009	Klenje, Serbia		Project Leader, Principal Tester, Responsible Work Executor	Supply of the equipment and work execution on the reconstruction and modernisation of the signalling equipment on the level crossing "Klenje" at km. 26+905, Public Enterprise Serbian Railways, Serbia. (Realised Computer-based level crossing system: LCLC-DL2000, Siemens with switch-on and switch-off elements: FTC-DL2000, Siemens, FAT performed and prepared for the installation).
May 2009	Mokra Gora Serbia	Siemens Ltd. Belgrade		Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Mokra Gora – 9th km" at km. 268+844, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
March 2009	Knić, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Knic" at km. 48+142, on the line Lapovo - Kraljevo - Djeneral Jankovic – Border of Macedonia, Public Enterprise Serbian Railways. (Delivered Computer-based level crossing system: LCLC-DL2000, Siemens, FAT accepted and ready for the installation).
January 2009	Mladenovac, Serbia	Siemens Ltd. Belgrade	Responsible Designer	As Inbuilt Project and The Installation Project for the level crossing "Petar Drapsin" Mladenovac at km. 51+815, on the line Belgrade – Mladenovac – Nis – Presevo – Border of Macedonia, Public Enterprise Serbian Railways.
December 2008	Rabrovac, Serbia			As Inbuilt Project and The Installation Project for the level crossing "Rabrovac" at km. 62+909, on the line Belgrade – Mladenovac – Nis – Presevo – Border of Macedonia, Public Enterprise Serbian Railways.
October 2008	Mladenovac, Serbia	Siemens Ltd. Belgrade	Project Leader, Principal Tester, Responsible Work Executor	Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Petar Drapsin" Mladenovac at km. 51+815, on the line Belgrade - Mladenovac – Nis - Presevo – Border of Macedonia, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
September 2008	Rabrovac, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Rabrovac" at km. 62+909, on the line Belgrade - Mladenovac – Nis - Presevo – Border of Macedonia, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
June 2007	Serbia	Siemens Ltd. Belgrade	Project Leader	Supply of the 75 complete of the switch-on / switch-off equipment with electronic accessory for punctual detection of the railway vehicle on the track in the aim of activation/deactivation of the relay based level crossings of type: FÜ60, Siemens, for Public Enterprise Serbian Railways (Delivered short frequency-operated track circuit of type: SFTC-DL2000, Siemens).

February 2007	M. Banja, Serbia	Siemens Ltd. Belgrade	Responsible Designer	As Inbuilt Project and The Installation Project for the level crossing "Mataruska Banja" at km. 94+593, on the line Lapovo – Kraljevo – Djeneral Jankovic – Border of Macedonia, Public Enterprise Serbian Railways.
December 2006	Kraljevo, Serbia			As Inbuilt Project and The Installation Project for the level crossing "Vuk Karadzic" at km. 86+577, on the line Stalac – Kraljevo – Pozega, Public Enterprise Serbian Railways.
July 2006	Kraljevo, Serbia			As Inbuilt Project and The Installation Project for the level crossing "Vrba" at km. 62+413, on the line Lapovo – Kraljevo – Djeneral Jankovic – Border of Macedonia, Public Enterprise Serbian Railways.
January 2007	M. Banja, Serbia	Siemens Ltd. Belgrade	Project Leader, Principal Tester, Responsible Work Executor	Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Mataruska Banja" at km. 94+593, on the line Lapovo - Kraljevo - Djeneral Jankovic – Border of Macedonia, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
September 2006	Kraljevo, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Vuk Karadzic" at km. 86+577, on the line Stalac - Kraljevo - Pozega, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
May 2006	Kraljevo, Serbia			Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "Vrba" at km. 62+413, on the line Lapovo - Kraljevo - Djeneral Jankovic – Border of Macedonia, Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens).
January 2006	Belgrade, Serbia and Vienna, Austria	Siemens Ltd. Belgrade	Principal Safety Assesor and Validator	Safety Assesment and Validation of the interfaces between Economical computer-based level crossing system LCLC-DL2000 (Siemens AG) and station interlocking system Simis W (Siemens AG), for SIL4 applications, in accordance with CENELEC standards, for needs of Siemens AG, Austria.
July 2005	Belgrade, Serbia & Braunsch., Germany	Siemens Ltd. AU	Project Leader, Principal Tester	Realisation of the prototype and FAT of the Computer-based level crossing system: LX7, Siemens with switch-on and switch-off elements LFTC-DL2000, Siemens and LED signals for the Norway market, FAT with internal Siemens Commission, Siemens AG Germany and Siemens Norway.
June 2005	Belgrade, Serbia			SMS Diagnostic System for the Computer-based level crossing LX7 (Siemens AG, Braunschweig, Germany). Development, design, prototype realization, testing and internal FAT completed. Belgrade, 2005.
May 2005				Service & Diagnostic and Event Recording System for the Computer-based level crossing LX7 (Siemens AG, Braunschweig, Germany). Development, design, prototype realization, testing and internal FAT completed. Belgrade, 2005.
April 2005	Belgrade, Serbia & Braunsch., Germany	Siemens Ltd. AU	Principal Safety Assesor and Validator	Conventional Safety Analyses of the Computer-based level crossing LX7, for needs of Siemens AG, Braunschweig, Germany for applications in Norway. The analysis performed as an input for the safety verification of the system in accordance with European Railway standards (CENELEC).
2003 – 2005	Belgrade, Serbia & Braunsch., Germany	Siemens Ltd. AU	Project Leader, Principal Tester	Development and design of the prototype of the Computer-based level crossing system: LX7, Siemens with switch-on and switch-off elements LFTC-DL2000, Siemens and LED signals for the Norway market, Siemens AG Germany and Siemens Norway.
March 2005	Belgrade, Serbia	Siemens Ltd. AU	Responsible Designer	The Installation Project for the Prototype of Computer-based level crossing system LX7 for the Norway market, Siemens AG Braunschweig.

February 2005	Belgrade, Serbia	Siemens Ltd. AU	Responsible Designer	As Inbuilt Prroject and The Installation Projectfor the level crossing "PBM1" Dimitrovgrad at km. 98+195, on the line Nis – Dimitrovgrad – Sofia (Bulgaria), Public Enterprise Serbian Railways.
January 2005				As Inbuilt Prroject and The Installation Projectfor the level crossing "PBM2" Dimitrovgrad at km. 98+446, on the line Nis – Dimitrovgrad – Sofia (Bulgaria), Public Enterprise Serbian Railways.
December 2005				As Inbuilt Prroject and The Installation Projectfor the level crossing "PBL5" Dimitrovgrad at km. 96+899, on the line Nis – Dimitrovgrad – Sofia (Bulgaria), Public Enterprise Serbian Railways, Germany.
October 2004 – November 2004	Dimitrovgrad, Serbia	Siemens Ltd. AU	Project Leader, Principal Tester, Responsible Work Executor	Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "PBM2" Dimitrovgrad at km. 98+446, on the line Nis - Dimitrovgrad – Sofia (Bulgaria), Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens, with interfaces to Computer-based interlocking system Simis W, Siemens).
August 2004 – September 2004				Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "PBM1" Dimitrovgrad at km. 98+195, on the line Nis - Dimitrovgrad – Sofia (Bulgaria), Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens, with interfaces to Computer-based interlocking system Simis W, Siemens).
May 2004 – June 2004				Supply of the equipment and work execution on reconstruction and modernisation of the safety signalling equipment, turnkey project, on level crossing "PBL5" Dimitrovgrad at km. 96+899, on the line Nis - Dimitrovgrad – Sofia (Bulgaria), Public Enterprise Serbian Railways. (Installed Computer-based level crossing system: LCLC-DL2000, Siemens, with interfaces to Computer-based interlocking system Simis W, Siemens).
April 2004	Belgrade, Serbia and Vienna, Austria	Siemens Ltd. AU	Principal Safety Assesor and Validator	Conventional Safety Analyses of the interfaces between Economical computer-based level crossing system LCLC-DL2000 (Siemens AG) and station interlocking system Simis W (Siemens AG), for SIL4 applications, for needs of Siemens AG, Austria.
March 2004	Belgrade, Serbia	Siemens Ltd. AU	Project Leader, Principal Tester	Realisation of the office prototype of the Computer-based level crossing system: LCLC-DL2000, Siemens with switch-on and switch-off elements FTC-DL2000, Siemens for the interface design, development, testing and SIL4 certification for use with Computer-based interlocking system Simis W, Siemens AG Austria.
February 2004	Vienna, Austria & Belgrade, Serbia	Siemens Ltd. AU	Principal Developer	The interfaces between Economical computer-based level crossing system LCLC-DL2000 (Siemens AG) and station interlocking system Simis W (Siemens AG), for SIL4 applications, for needs of Siemens AG, Austria. Complete development documentation realised in accordance with European Railway standards (CENELEC), completed in 2005.
January 2004	Belgrade, Serbia	Siemens Ltd. AU	Responsible Designer	The Installation Project for the office prototype of the Computer-based level crossing system LCLC-DL2000 with the interface design for use with the Computer-based interlocking system Simis W, Siemens AG Austria.
November 2003	Belgrade, Serbia	Siemens Ltd. AU	Project Leader, Principal Tester	Data logger for the FTC-DL2000, for needs of Siemens AG, Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations.
September 2003				Service & Diagnostic and Event Recording System for the Economical computer-based level crossing system LCLC-DL2000 (Siemens AG), Braunschweig, Germany. Development, design, prototype realisation, testing and installation at test the sight in Subotica and later on all locations with LCLC-DL2000. Standard solution from year 2005.

July 2003	Subotica, Serbia	Siemens Ltd. AU	Project Leader, Principal Tester, Responsible Work Executer	Supply and installation of the Prototype of the Computer-based level crossing system LCLC-DL2000 (Siemens AG) with switch-on and switch-off elements FTC-DL2000 (Siemens AG) on the test sight: level crossing "Strazara 1" at km. 129+545, Subotica, on the line Vinkovci – Bogojevo – Sombor – Subotica, Probation work for the certification and approval purposes under monitoring of Commission of Public Enterprise Serbian Railways and Community of Yugoslavian Railways. User permits for LCLC-2000, SFTC-DL2000 and SFTC-DL2000 obtained in 2005.
May 2003	Belgrade, Serbia	Siemens Ltd. AU	Responsible Designer	The Installation Project for the Prototype of the Computer-based level crossing system LCLC-DL2000, on the level crossing "Strazara 1" at km. 129+545, Subotica, on the line Vinkovci – Bogojevo – Sombor – Subotica, Siemens AG, Braunschweig Germany.
March 2002	Belgrade, Serbia & Braunsch., Germany	Siemens Ltd. AU	Safety Assesor and Validator	Conventional Safety Analyses of the Economical computer-based level crossing system LCLC-DL2000, for needs of Siemens AG, Braunschweig, Germany. For the purposes of the Certification and Approval process under responsibility of the Community of Yugoslavian Railways.
February 2002	Belgrade, Serbia	Siemens Ltd. AU	Responsible Designer	The Typical Installation Project for the Prototype of the Computer-based level crossing system LCLC-DL2000, Siemens AG, Braunschweig Germany.
December 2001 – January 2001	Belgrade, Serbia & Braunsch., Germany	Siemens Ltd. AU	Project Leader, Principal Developer	Development of the Economical computer-based level crossing system LCLC-DL2000, for needs of Siemens AG, Braunschweig, Germany. Development, design, prototype realisation, testing and installation at various locations. Certification and Approval process completed. User permit obtained from Community of Yugoslavian Railways in 2005. Standard solution from year 2005.
December 2000 – January 2000	Belgrade, Serbia & Braunsch., Germany	Siemens Ltd. AU	Project Leader, Principal Tester	Development of the Long Frequency-operated Track Circuit LFTC-DL2000 (six types: 25 Hz, 33 Hz, 83 and 1/3 Hz, 125 Hz, 175 Hz and 225 Hz), for needs of Siemens AG, Braunschweig, Germany. Design, prototype realisation, testing and installation at various locations. Certification and Approval process completed. User permit obtained from Community of Yugoslavian Railways in 2005. Standard solution from year 2005.
December 1999 – January 1999				Development of the Short Frequency-operated Track Circuit SFTC-DL2000 (two types: 10 KHz and 14,5 KHz), for needs of Siemens AG, Braunschweig, Germany. Development, design, prototype realisation, testing and installation at various locations. Certification and Approval process completed. User permit obtained from Community of Yugoslavian Railways in 2005. Standard solution from year 2005.
1997	Melbourne, Australia	Connell Wagner Ltd.	Checker	Deer Park West (PTC, Victoria, Australia), Checked Aspect Change Design.
				Upfield (PTC Signal Rehabilitation Project). The project has included checking of several stations and more then 30 L-xings and Ped-xings. The following drawings, which were prepared for the application of computer-based interlockings, have been checked: Signalling arrangements, Bonding plans and Time-distance graphs.
1997	Melbourne, Australia	Connell Wagner Ltd.	Designer	Melbourne Freight Terminal, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). The project includes various design activities required to provide the standard gauge connection.
				Jolimont Resignalisation Project (PTC, Victoria, Australia), Design of Final Concept Signalling Arrangement. The project has included design of signalling arrangements which were prepared for the application of computer based interlockings at Flinders Street and the optimisation of signalling and equipment against required headways.

1996	Melbourne, Australia	Connell Wagner Ltd.	Checker	Kutorajo, Cirebon-Kroya-Yogyakarta Project (Indonesia), Checking of WESTRACE Control Tables.
				Maos, Cirebon-Kroya-Yogyakarta Project (Indonesia), Checking of WESTRACE Control Tables.
				Cirebon-Kroya-Yogyakarta Project (Indonesia), Checking of WESTRACE Block Circuits for typical station arrangement.
				Brooklyn Resignalling Design (PTC, Victoria Australia). Checking of the Interlocking Design. The project involved the provision of power-operated points in an area equipped with two-aspect signalling.
				Lara Lakes Road L-xing (PTC, Victoria, Australia). Design of Pedestrian Gates and Flashing Lights Circuits.
				Edgar Road L-xing (PTC, Victoria, Australia). Design of Pedestrian Gates and Flashing Lights Circuits.
				Windermare Road L-xing (PTC, Victoria, Australia). Design of Pedestrian Gates and Flashing Lights Circuits.
				Cherry Street L-xing (PTC, Victoria, Australia). Design of Pedestrian Gates and Flashing Lights Circuits.
				Champion Road L-xing (PTC, Victoria, Australia). Design of Pedestrian Gates and Flashing Lights Circuits.
				Shanghai Monorail Project (China), Preliminary design of Signalling Arrangement. The design has included headway calculations, signal spacing and ATP considerations to obtain the optimal performances.
1996	Melbourne, Australia	Connell Wagner Ltd.	Principal Developer	Development, realization and testing of the Software for Service Braking Distance Calculations. Verified by Connell Wagner Pty. Ltd. Melbourne, Australia, 30 October 1996 for use on Australian Railways (PTC, Victoria; SRA, NSW; QR, Queensland; WESTRAIL & TA Western Australia). In use from 1997 for the design and checking of railway signalling and control systems.
1996	Melbourne, Australia	Connell Wagner Ltd.	FAT Witnessing and Acceptance (on behalf of the End User)	Sikampuh, Tasikmalaya-Banjar-Kroya Project, (Indonesia), Factory Acceptance Testing of WESTRACE.
				Kroya (the most complex station in the contract consisting from two WESTRACE systems), Cirebon-Kroya-Yogyakarta Project (Indonesia). Factory Acceptance Testing of WESTRACE.
				Bumiayu, Cirebon-Kroya-Yogyakarta Project (Indonesia). Factory Acceptance Testing of WESTRACE.
				Legok, Cirebon-Kroya-Yogyakarta Project (Indonesia). Factory Acceptance Testing of WESTRACE.
				Patuguran, Cirebon-Kroya-Yogyakarta Project (Indonesia). Factory Acceptance Testing of WESTRACE.
				Karangsari, Cirebon-Kroya-Yogyakarta Project (Indonesia). Factory Acceptance Testing of WESTRACE.
	Kretek, Cirebon-Kroya-Yogyakarta Project (Indonesia). Factory Acceptance Testing of WESTRACE.			
Sidney, Australia				The Adwest SSI, Belair to Goodwood Train Describer Project (Transadelaide, Australia), FAT of the Interlocking system SSI – Solid State Interlocking (General Electric Company) on behalf of the End Customer.
1995	Sidney, Australia	Connell Wagner Ltd.	Checker	The Adwest SSI, Belair to Goodwood Train Describer Project (Transadelaide, Australia). Checking of the Control Tables, Connell Wagner Ltd.
	Melbourne, Australia			Brooklyn, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia).
				Newport Stage Works (Signalling arrangements, bonding plans, control tables and circuit alterations), Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia).
				North Geelong "C" Stage Work (Signalling Arrangements and Locking (releasing) Tables), Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia).
				Maddox Road L-xing, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Checking of HXP-3 (Harmon CBI L-xing System) design alteration.

1995	Melbourne, Australia	Connell Wagner Ltd.	Project Leader and Principal Responsible Designer	Newport, PTC Signal Rehabilitation Project (Victoria, Australia). The project has included design of signalling arrangements, which were prepared for the application of computer-based interlockings, Connell Wagner Ltd., Melbourne, Australia.
				Ringwood, PTC Signal Rehabilitation Project (Victoria, Australia). The project has included design of signalling arrangements, which were prepared for the application of computer-based interlockings.
				Heidelberg to Rosanna, PTC Signal Rehabilitation Project (Victoria, Australia). The project has included design of signalling arrangements, which were prepared for the application of computer-based interlockings.
				Broadmeadows, PTC Signal Rehabilitation Project (Victoria, Australia). The project has included design of signalling arrangements, which were prepared for the application of computer-based interlockings.
				Frankston, PTC Signal Rehabilitation Project (Victoria, Australia). The project has included design of signalling arrangements, which were prepared for the application of computer-based interlockings.
				Jolimont to Clifton Hill, PTC Signal Rehabilitation Project (Victoria, Australia). The project has included design of signalling arrangements, which were prepared for the application of computer-based interlockings.
1995	Melbourne, Australia	Connell Wagner Ltd.	Project Leader, Principle Tester In-Charge	Brooklyn, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
				Frances St. L-xing, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
				Tottenham Loop, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
				Tottenham "B" (mechanical interlocking), Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
1995	Melbourne, Australia	Connell Wagner Ltd.	Principle Tester In-Charge	Sunshine, Munistone and West Footscray (boundaries), Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia) Commissioning and Put in the Operation.
				Sunshine Loop Decommissioning, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
				Newport Stage Works, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
1994	Melbourne, Australia	Connell Wagner Ltd.	Designer	Newport Final Design (including the SSI portion, re-signalling designs of the existing relay interlocking and the appropriate interfaces), Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Commissioning and Put in the Operation.
				Newport Stage Work, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). The designs include stage work signalling arrangements, bonding plans, releasing table alterations and circuit's design.
				Champion Road L-xing, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Design of HXP-3 (Harmon CBI L-xing system).
				Francis Street L-xing, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Circuit alteration design.
				Kernot Street L-xing, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Circuit alteration design.

				Brooklyn Interim Stage Work Design, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia).
				Tottenham Loop Design, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Design activities including significant alterations to ex. Sunshine Loop circuits to be reused as Tottenham Loop circuits, Teknis Design Alterations, Tottenham 'B' Re-signalling Design, West Footscray Circuits Alteration Design, Munistone Circuits Alteration Design and Sunshine Circuits Alteration Design.
				Tottenham Loop Interim Stage Work Design, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia).
				Sunshine Loop Decommissioning Design, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia). Design activities providing auto signalling through the single line and appropriate alterations to Anderson Street Level Crossing circuits.
				Sunshine Loop Interim Decommissioning Design, Melbourne to Adelaide Gauge Standardisation Project (National Rail, Australia).
1994	Melbourne, Australia	Connell Wagner Ltd.	Checker	Ipswich – Toowoomba (Queensland Railways, Australia). Checking of design of WESTECT ATP (Westinghouse Automatic Train Protection System) Route Data design consisting of transponder allocation drawings, detailed site survey information and client provided information for speed board placement and track gradient profiles.
				Ipswich – Toowoomba (Queensland Railways, Australia). Checking of design of WESTECT ATP computer generated gradient calculations and signal route entrance speeds used in transponder CTSS (Configuration of Transponder Sub System) data and ATP encoder logic.
				Ipswich – Toowoomba (Queensland Railways, Australia). Checking of design of WESTECT ATP CTSS used to store specific track data and to program transponders. The specific track data includes such information as radio channels, gradients, permanent and temporary speed restrictions and signal divergent route information, Westinghouse.
1993				Farleigh – Purono (Queensland Railways, Australia). Checking of design of WESTECT ATP (Westinghouse Automatic Train Protection System) Route Data design consisting of transponder allocation drawings, detailed site survey information and client provided information for speed board placement and track gradient profiles.
				Farleigh – Purono (Queensland Railways, Australia). Checking of design of WESTECT ATP computer generated gradient calculations and signal route entrance speeds used in transponder CTSS (Configuration of Transponder Sub System) data and ATP encoder logic.
				Farleigh – Purono (Queensland Railways, Australia). Checking of design of WESTECT ATP CTSS used to store specific track data and to program transponders. The specific track data includes such information as radio channels, gradients, permanent and temporary speed restrictions and signal divergent route information.
1992				Waterloo & City Line Re-signalling (British Rail): Full design check of track bonding plans, control tables, interlocking circuits and ATP code selection tables and circuits for British Rail's Waterloo and City Line. The task involved identification of foul track circuits and checking of control tables and circuits for a two-stage implementation of ATP / ATO on this line. Compliance with British Rail's Standard Signalling Principles and Typical Circuits for Free Wired Interlocking was checked and deviations from the specifications were noted. Solutions were proposed where necessary to overcome design deficiencies.
1992	Melbourne, Australia	Connell Wagner Ltd.	Designer	Havant Resignalling (British Rail). Circuit Design for new interlocking at Havant. Design included control table changes and detailed design of the interlocking.
				Bristol, Stapelton Road Signal Conversions (British Rail). Circuit design for conversion of electro-mechanical Banner repeats to fibre optic Banner repeats. Circuit design in accordance with British Rail typical Free Wired Interlocking Standards to provide controls and lamp proving.



1992	Belgrade, Serbia	RRI "Kirilo Savic"	Project Leader, Designer	Design of the Directions and Technical Conditions for safety signalling electronic interlockings on railway lines with speeds up to 250 km/h, Belgrade. Investor: Railway Transport Company Belgrade, Yugoslavian Railways.
1991	Zagreb, Croatia	RRI "Kirilo Savic"	Cetification and Approval Checker	MMI system for the interlocking system at the railway station "Ivanic" city, Zagreb, Croatia, produced by company Koncar, Zagreb, Croatia, on behalf of Railway Traffic Company Zagreb, Croatia.
1990	Serbia	RRI "Kirilo Savic"	Responsible Designer	Main Project, As Inbuilt Pproject and The Installation Project of the safety signalling equipment for „Rasputnica 1 V“, Belgrade Fair, Belgrade, Railway Research Institute „Kirilo Savic“ for Railway Transport Company Belgrade (Yugoslavian Railways).
1990	Belgrade, Serbia	RRI "Kirilo Savic"	Project Leader, Developer, Designer, Tester	Supply and installation of the safety signalling equipment for „Rasputnica 1 V“, Belgrade Fair, Belgrade Project included the development, design, realisation, testing and commissioning (FAT and SAT) and put in the operation under acceptance of the Government Commission In-charge of the safety signalling interlocking equipment (Railway Research Institute „Kirilo Savic“) for Railway Transport Company Beograde (Yugoslavian Railways).
1989	Serbia	RRI "Kirilo Savic"	Project Leader, Developer	Audio frequent track circuit for needs of YR - Yugoslavian Railways. Substitution and improvement of the existing imported technical solution. Development, design, prototype realization, testing and installation at various locations. Standard solution of Institute "Kirilo Savic" Belgrade in use on YR network from 1989.
1989	Ljubljana, Slovenia	RRI "Kirilo Savic"	Cetification and Approval Checker	Certification for the issue of the User Permit for Railways for Modules for the over-voltage protection of the signalling and telecommunication cables, produced by the company "Iskra" Ljubljana, Slovenia. Participated as a member of the Railway Research Institute.
1988	Belgrade, Serbia	RRI "Kirilo Savic"	Design, Installation, Testing (Commissioning and Put in Operation)	Railway Interlocking system for the railway station without personnel. Participated in the resignalling work, testing and commissioning.
	Raducic (Knin), Croatia			Railway Interlocking system of the railway station "Raducic", Knin, Railway Transport Company Croatia. Participated in the resignalling work, testing and commissioning.
1988	Serbia	RRI "Kirilo Savic"	Project Leader, Developer	"Dynamometer" points force meter, for needs of YR - Yugoslavian Railways. Substitution and improvement of the existing imported technical solution. Development, design, prototype realization, testing and installation at various locations. Standard solution of Institute "Kirilo Savic" Belgrade in use on YR network from 1988.
1987	Belgrade, Serbia			Command equipment - MMI for safety signalling equipment in digital technology, for needs of the Railway Research Institute "Kirilo Savic" Belgrade. Development, design, prototype realization and testing in the factory conditions.
1986	Obilic, Kosovo	RRI "Kirilo Savic"	Designer	Railway station "Obilic", Railway Transport Company Pristina, Kosovo, Yugoslavia, Interlocking system, Installation Project design.
	Titova Mitrovica, Kosovo			Railway station "Titova Mitrovica", Railway Transport Company Pristina, Kosovo, Yugoslavia, Interlocking system, Installation Project design.
	Zvecan, Kosovo			Railway station "Zvecan sa Valacem", Railway Transport Company Pristina, Kosovo, Yugoslavia, Interlocking system, Installation Project design.

	Kosovo Polje, Kosovo			Railway station "Kosovo Polje" – passenger station, Railway Transport Company Pristina, Kosovo, Yugoslavia, Interlocking system, Installation Project design.
				Railway station "Kosovo Polje" – freight station, Railway Transport Company Pristina, Kosovo, Yugoslavia, Interlocking system, Installation Project design.
1985	Lipljan, Babljak, Grlica and Urosevac, Kosovo	Railway Institute	Designer, Tester (Commissioning and Put in the Operation)	Unification of the alteration during the testing on the equipment and at the „as installed designs“ for the Railway interlocking systems for railway stations: Lipljan, Babljak, Grlica and Urosevac, Kosovo, on the line Lesak – Djeneral Jankovic (Energoinvest, Sarajevo, Bosnia & Herzegovina).
	Kosovo			Several Relay interlocking systems for railway stations on the line Lesak – Djeneral Jankovic, Kosovo (Energoinvest, Sarajevo, Bosnia & Herzegovina). Participated as a member of the team of Railway Research Institute "Kirilo Savic".
1985	Belgrade, Serbia	Railway Institute	Safety Assessor and Validator	Conventional Safety Analyses of the MUMZ – Mobile interlocking system for inter station signals dependencies, simplified interlocking system for interim works during the reconstruction.
1984	Sarajevo, Bosnia & Herzegovina			Conventional Safety Analyses of the Prototype of the Relay Interlocking System for the railway stations on the railway line Lesak – Djeneral Jankovic (Energoinvest, Sarajevo, Bosnia & Herzegovina, Yugoslavia).

**Studies and Reports:**

- Lutovac N. D, Mihajlovic D, Dimitrijevic M., Recorder of irregular events for the railway signalling systems (in Serbian), Institute "Kirilo Savic", Belgrade, Yugoslavia, October 15, 1991, pp. 1-7.
- Lutovac N. D, Ivanovic M., Microcomputer-based interlocking system for a railway station (In Serbian), Institute "Kirilo Savic", Belgrade, Yugoslavia, October 23, 1991, pp. 1-10.
- Lutovac N. D, as a member of the team of the Railway Research Institute "Kirilo Savic": Directions and Technical Conditions for safety signalling electronic interlockings on railway lines with speeds up to 250 km/h, Belgrade. Investor: Railway Transport Company Belgrade, Yugoslavian Railways. July 1992, pp. 1-30.
- Lutovac N. D, Reid A. G., Ducic D. V., Eldridge M. G., Report on Waterloo and City line Resignalling design CHECKING, BR, UK, Connell Wagner Ltd., Melbourne, Australia, February, 1993, pp. 1-30.
- Lutovac N. D, KERNOT STREET AND FRANCIS STREET GAUGE DETECTION CIRCUITS, PTC (PUBLIC TRANSPORT corporation) Australia, Connell Wagner Ltd., Melbourne, Australia, October 4, 1995, pp. 1-6.
- Lutovac N. D, Karangari - INDONESIA, WESTRACE (Westinghouse) FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, February 21, 1996, pp. 1.
- Lutovac N. D, legok - INDONESIA, WESTRACE (Westinghouse) FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, February 23, 1996, pp. 1.
- Lutovac N. D, Upfield - Checking of the signalling arrangement, PTC (PUBLIC TRANSPORT corporation) Australia, Connell Wagner Ltd., Melbourne, Australia, February 26, 1996, pp. 1-2.
- Lutovac N. D, Patuguran - INDONESIA, WESTRACE (Westinghouse) FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, March 15, 1996, pp. 1.
- Lutovac N. D, Kretek - INDONESIA, WESTRACE (Westinghouse) FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, March 28, 1996, pp. 1-2.
- Lutovac N. D, Bumiayu - INDONESIA, WESTRACE (Westinghouse) FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, April 18, 1996, pp. 1-2.
- Lutovac N. D, Kroya - INDONESIA, WESTRACE (Westinghouse) FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, June 18, 1996, pp. 1-3.
- Lutovac N. D, Kroya - INDONESIA, WESTRACE FAT final report, Connell Wagner Ltd., Melbourne, Australia, July 8, 1996, pp. 1-11.

- Lutovac N. D, Bu Yai - Block circuits checking, state railway of Thailand, Connell Wagner Ltd., Melbourne, Australia, August 27, 1996, pp. 1.
- Lutovac N. D, Melbourne freight terminal design, PTC (PUBLIC TRANSPORT Corporation) Australia, Connell Wagner Ltd., Melbourne, Australia, September 17, 1996, pp. 1-2.
- Ness D. J., Lutovac N. D, Indonesian interlocking test guide, rev.01, WESTRACE FAT REPORT, Connell Wagner Ltd., Melbourne, Australia, October 15, 1996, pp. 1-11.
- Lutovac N. D, Upfield line re-signalling project- signalling arrangement design report, PTC (PUBLIC TRANSPORT corporation) Australia, Connell Wagner Ltd., Melbourne, Australia, November 29, 1996, pp. 1-2.
- Lutovac N. D, Legok and Karangari - INDONESIA, WESTRACE (Westinghouse) FAT - General observations, Connell Wagner Ltd., Melbourne, Australia, December 2, 1996, pp. 1-3.
- Lutovac N. D, Procedure for checking of signalling design, Connell Wagner Ltd., Melbourne, Australia, January 31, 1997, pp. 1-2.
- Lutovac N. D, Resignalling of Subiaco Station (Westrail, Western Australia) – Evaluation of the signalling portion of the Tender, Connell Wagner Ltd., Melbourne, Australia, March 11, 1997, pp. 1-6.
- Lutovac N. D and Mueller N, SICAS – Siemens CBI system – General Description, V 5.0, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, November 7, 1997, pp. 1-51.
- Lutovac N. D, Analyses of Diagnostic and Maintenance features of SICAS (Siemens) against the Australian technical requirements, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 6, 1998, pp. 1.
- Lutovac N. D, Basic Characteristics of WESTECT ATP (Westinghouse), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 1998, pp. 1-2.
- Lutovac N. D, Review of the available documentation and features for SIMIS W, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 1998, pp. 1-3.
- Lutovac N. D, PRICE ESTIMATE OF THE SSI (BR / Westinghouse / GEC) BASED SOLUTION FOR TAIWAN RAILWAYS (Project: Sungchan - Tainan), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, July 1998, pp. 1-4.
- Lutovac N. D, Ranking of various Computer Based Interlocking (CBI) systems for PTC (Railways Victoria, Australia) applications based on compliance with PTC requirements, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, July 1998, pp. 1-4.
- Lutovac N. D, Analyses of SICAS CBI system (Siemens) against expected PTC technical requirements, safety and functionality, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, July, 1998, pp. 1-16.
- Lutovac N. D, Limitations of SSI (BR/Westinghouse/GEC), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, August 1998, pp. 1-7.
- Lutovac N. D, Limitations of WESTRACE (Westinghouse), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, August 1998, pp. 1-6.
- Lutovac N. D, Limitations and Advantages of SIMIS W CBI system, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, August 1998, Pp. 1-4.
- Lutovac N. D, Perth-Kalgoorlie line Resignalling (Westrail, Western Australia), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, September 1998, pp. 1-4.
- Lutovac N. D, Westrail RFT Projects (Western Australia), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, March 11, 1999, pp. 1-19.
- Lutovac N. D, Australian Functional Description - Signalling Principles and Practice, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, April 15, 1999, pp. 1-83.

- Lutovac N. D, GEOGRAPHICAL INTERLOCKINGS, PTC (PUBLIC TRANSPORT corporation) Australia, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, November 3, 1999, pp. 1-3.
- Lutovac N. D, SIGNALLING EQUIPMENT ON KOSOVO (Yugoslavia), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, November 3, 1999, pp. 1-2.
- Lutovac N. D, COMPETITIVE PRODUCTS FOR WORLDWIDE MARKET, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, November 29, 1999, pp. 1-4.
- Lutovac N. D, LOW COST SIMATIC S5-95F (Siemens) BASED L-XING, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, December 10, 1999, pp. 1-8.
- Lutovac N. D, China CBI Projects, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, March 1, 2000, pp. 1-8.
- Lutovac N. D, FAIL SAFE COMMUNICATION BY SIMATIC S5-95F (Siemens), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, March 8, 2000, pp. 1-2.
- Lutovac N. D, LOW COST COMPUTER-BASED LEVEL CROSSING SYSTEM, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 30, 2000, pp. 1-5.
- Lutovac N. D, Low cost L-xing controlling system based on SIMATIC 95F hardware, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 30, 2000, pp. 1-5.
- Lutovac N. D, WCRM - WEST COST MAIN LINE RESIGNALLING PROJECT: COVENTRY INTERLOCKING, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, July 24, 2000, pp. 1-6.
- Lutovac N. D, Approval Process of SIMIS W (Siemens) in Slovenia (Projects: Ljubljana-Sezana & Murska Sobota-Hodos), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, October 15, 2000, pp.1-19.
- Lutovac N. D, PRICE ESTIMATE OF THE WESTRACE SYSTEM FOR ISMAILIA – RAFAH LINE IN EGYPT, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 20, 2001, pp. 1-2.
- Lutovac N. D, SUITABILITY OF THE LOW COST LEVEL CROSSING SYSTEM FOR THE APPLICATIONS ON NSB (Norges StatsBahner) IN NORWAY, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, June 21, 2001, pp. 1-4.
- Lutovac N. D, Technical Description: THE LCLC (Siemens) LOW COST LEVEL CROSSING SYSTEM, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, September 28, 2001, pp. 1-12.
- Lutovac N. D, Technical Description: FTC (Siemens) FREQUENCY-OPERATED TRACK CIRCUITS, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, November 15, 2001, pp.1-15.
- Lutovac N. D, TECHNICAL DESCRIPTION: LOW COST ERTMS / ETCS Level 3 - SOUTH AFRICA OREX LINE - ORE EXPORT LINE (Sishen – Saldanha), Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, January 31, 2002, pp.1-34.
- Lutovac N. D, SIGNALLING MARKET IN CHINA, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, July 14, 2002, pp.1-20.
- Lutovac N. D, PERSPECTIVE PRODUCTS FOR MARKET IN CHINA, Siemens Ltd. Melbourne, Australia / Siemens AG, Braunschweig, Germany, October 20, 2002, pp.1-7.
- Lutovac N. D, Golebniak U. FEASIBILITY STUDY: RAILWAY REHABILITATION IN UZBEKISTAN SIGNALLING SYSTEMS, TS RA MLI, Siemens AG, Braunschweig, Germany, August 30, 2003. pp. 1-87.

**Technical Solutions:**

- Command equipment - MMI for safety signalling equipment in digital technology, for needs of the Railway Research Institute “Kirilo Savic” Belgrade. Development, design, prototype realization and testing in the factory conditions, 1987.

- “Dynamometer” points force meter, for needs of YR - Yugoslavian Railways. Substitution and improvement of the existing imported technical solution. Development, design, prototype realization, testing and installation at various locations. Standard solution of Institute “Kirilo Savic” Belgrade in use on YR network from 1988.
- Audio frequent track circuit for needs of YR - Yugoslavian Railways. Substitution and improvement of the existing imported technical solution. Development, design, prototype realization, testing and installation at various locations. Standard solution of Institute “Kirilo Savic” Belgrade in use on YR network from 1989.
- Software for Service Braking Distance Calculations. Verified by Connell Wagner Pty. Ltd. Melbourne, Australia, 30 October 1996 for use on Australian Railways (PTC, Victoria; SRA, NSW; QR, Queensland; WESTRAIL & TA Western Australia). In use from 1997 for the design and checking of railway signalling and control systems
- Expert Software: General Interlocking Software, which contains complete functionality of the Universal Computer-based Interlocking System, realised in Quick Basic programming language, with execution on the PC platform with simulation, PhD Research work, Belgrade, Serbia, 1999.
- General Data Design Software Package for the Expert Software: General Interlocking Software, which contains complete functionality of the Universal Computer-based Interlocking System, realised in Quick Basic programming language, with execution on the PC platform in the interactive regime, PhD Research work, Belgrade, Serbia, 1999.
- Data logger for the FTC-DL2000, for needs of Siemens AG, Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations, 2003.
- Economical computer-based level crossing system LCLC-DL2000, for needs of Siemens AG, Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations. Certification and Approval process completed. User permit obtained from Community of Yugoslavian Railways in 2005. Standard solution from year 2005.
- Service & Diagnostic and Event Recording System for the Economical computer-based level crossing system LCLC-DL2000 (Siemens AG), Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations. Standard solution from year 2005.
- The interfaces between Economical computer-based level crossing system LCLC-DL2000 (Siemens AG) and station interlocking system Simis W (Siemens AG), for SIL4 applications, for needs of Siemens AG, Austria. Complete development documentation realised in accordance with European Railway standards (CENELEC), completed in 2005.
- Short Frequency-operated Track Circuit SFTC-DL2000 (two types: 10 KHz and 14,5 KHz), for needs of Siemens AG, Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations. Certification and Approval process completed. User permit obtained from Community of Yugoslavian Railways in 2005. Standard solution from year 2005.
- Long Frequency-operated Track Circuit LFTC-DL2000 (six types: 25 Hz, 33 Hz, 83 and 1/3 Hz, 125 Hz, 175 Hz and 225 Hz), for needs of Siemens AG, Braunschweig, Germany. Design, prototype realization, testing and installation at various locations. Certification and Approval process completed. User permit obtained from Community of Yugoslavian Railways in 2005. Standard solution from year 2005.
- Computer-based level crossing LX7, for needs of Siemens AG, Braunschweig, Germany for applications in Norway. Complete development, design and prototype realization in accordance with the customer requirements and the customer contract. FAT completed in Belgrade. Complete development documentation realised in accordance with European Railway standards (CENELEC), completed in June 2005. Presented for patent from Siemens AG.
- Service & Diagnostic and Event Recording System for the Computer-based level crossing LX7 (Siemens AG, Braunschweig, Germany). Development, design, prototype realization, testing and internal FAT completed. Belgrade, 2005.
- SMS Diagnostic System for the Computer-based level crossing LX7 (Siemens AG, Braunschweig, Germany). Development, design, prototype realization, testing and internal FAT completed. Belgrade, 2005.
- SMS Diagnostic System for the Economical computer-based level crossing system LCLC-DL2000 (Siemens AG), Braunschweig, Germany. Development, design, prototype realization, testing and installation at various locations. Standard solution from year 2010.

- Data logger for the Audio Frequency Track Circuits, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location, 2013. Standard solution from year 2013.
- System (hardware and software) for measuring the approaching train speed and the approaching train distance. The application for constant warning time functionality for Electronic Level Crossing System ELC (Signalling & Control Ltd.). Development, design, prototype realization, testing and internal FAT completed. Belgrade, 2013.
- Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location. Certification and Approval process completed. User permit for use on Serbian Railways obtained from Directorate of Railways of Republic of Serbia in March 2014. Standard solution from year 2014.
- Service & Diagnostic and Event Recording System for Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location. Certification and Approval process completed with the ELC. Standard solution from year 2014.
- SMS Diagnostic System for Electronic Level Crossing System ELC, for needs of Signalling & Control Ltd., Belgrade, Serbia. Development, design, prototype realization, testing and installation at testing location. Certification and Approval process completed with the ELC. Standard solution from year 2014
- Data logger for the ERC – Electronic Rail Contact (Signalling & Control Ltd., Belgrade, Serbia). Development, design, prototype realization, testing and installation at testing location, 2014. Standard solution from year 2014.

**Technical Documentation:**

- LX7 (Level Crossing Controller) – Simple Level Crossing System for Norway, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 01.08.2003, pp. 1-8.
- LX7 for Norway - Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 04.08.2003, pp. 1-22
- LX7 & FTC-DL2000 (Frequency-operated Track Circuits), Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 30.06.2004, pp. 1-15.
- LX7 – The application examples, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 06.08.2004, pp. 1-7.
- LX7 – System Requirements Specification, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 20.08.2004, pp. 1-26.
- LX7 – Safety Requirements Specification, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 30.08.2004, pp. 1-15.
- LX7 – Functional Requirements Specification, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 30.08.2004, pp. 1-23.
- LX7 - MTBF Calculations, Siemens AG, Transportation Systems, Braunschweig, Germany, 19.09.2004, pp. 1-2.
- LX7 – Power Supply Calculation Template, Siemens AG, Transportation Systems, Braunschweig, Germany, 19.09.2004, pp. 1-2.
- LX7 – Presentation, Siemens AG, Transportation Systems, Braunschweig, Germany, 16.01.2005, pp. 1-21.
- CLC / LX7 FAT Report, Siemens AG, Transportation Systems, Braunschweig, Germany, 07.06.2005, pp. 1-99.
- LX7 – Service & Diagnostic and Event Recording System, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 31.10.2005, pp. 1-17.
- LX7 – Software Description, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 05.12.2005, pp. 1-24.
- LX7 – SPECIFICATION, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 05.12.2005, pp. 1-180.
- LX7 – Data Design, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, 05.12.2005, pp. 1-54.
- LX7 – Technical Safety Report, Siemens AG, Transportation Systems, Braunschweig, Germany, 30.01.2006, pp. 1-46.
- LCLC-DL2000 – The low cost level crossing system, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 28.09.2001, pp. 1-14.

- LCLC-DL2000 – Functional Description for the certification, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 29.10.2001, pp. 1-21.
- -DL2000 – Power Supply Calculation Template, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 02.11.2001, pp. 1-2.
- LCLC-DL2000 – The instructions for use, maintenance and diagnostics, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In German, In Serbian), 11.11.2001, pp. 1-24.
- LCLC-DL2000 – Service, Diagnostic and Event Recording System, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 29.07.2002, pp. 1-11.
- LCLC-DL2000 – Registration of faults, disruptions and regular events and the instructions for repair faults and disruptions, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 23.01.2003, pp. 1-33.
- LCLC-DL2000 – Functional Specification, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 02.02.2003, pp. 1-10.
- LCLC-DL2000 (Low Cost Level Crossing System) & FTC-DL2000 (Frequency-operated Track Circuits), Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 30.08.2003, pp. 1-14.
- LCLC-DL2000 – Realization Dynamic Template, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 29.09.2003, pp. 1-3.
- LCLC-DL2000 – Functional Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 02.12.2003, pp. 1-17.
- LCLC-DL2000 – Technical Documentation, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 06.09.2004, pp. 1-58.
- LCLC-DL2000 – Safety Analyses, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 10.10.2004, pp. 1-50.
- LCLC-DL2000 – Instructions for handling and maintenance, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 15.11.2004, pp. 1-40.
- LCLC-DL2000 – Maintenance Manual, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 16.12.2004, pp. 1-45.
- LCLC-DL2000 – Centralised S&D and Event recording System, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 19.04.2005, pp. 1-2.
- LCLC-DL2000 – Differences between version I and version II (for Dimitrovgrad, with interfaces to Simis W), Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 30.01.2006, pp. 1-60.
- LCLC-DL2000 – Additional Safety Analyses for Version 2, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 10.03.2006, pp. 1-46.
- LCLC-DL2000 – Interface to the Interlocking (Simis W), Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 10.03.2006, pp. 1-53
- LCLC-DL2000 – Interfaces between SIMIS W and LCLC-DL2000 of V2.0 – Requirements Specification, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 10.03.2006, pp. 1-15.
- LCLC-DL2000 – Procedure Safety Case, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 29.12.2006, pp. 1-75.
- LCLC-DL2000 – FAT Procedure for Factory Testing and Acceptance, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian, In Russian), 03.01.2007, pp. 1-19.
- LCLC-DL2000 – The instructions for use of the station MMI panel, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 08.01.2007, pp. 1-9.
- LCLC-DL2000 – Maintenance Manual for Kraljevo, Siemens AG, Transportation Systems, Braunschweig, Germany, (In Serbian), 26.01.2007, pp. 1-45.
- LCLC-DL2000 – The instructions for use of S&D and ER system, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 23.03.2007, pp. 1-14.

- LCLC-DL2000 – Presentation, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian, In Russian), 05.06.2007, pp. 1-21.
- FTC-DL2000 – Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 31.07.2002, pp. 1-150.
- LFTC-DL2000 – MTBF Calculations, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 31.07.2002, pp. 1-19.
- SFTC-DL2000 – MTBF Calculations, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 31.07.2002, pp. 1-19.
- FTC-DL2000 – Instructions for Installation, Use and Maintenance, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 31.07.2002, pp. 1-69.
- SFTC-DL2000 – Technology Process for the Production, Technical Description, Siemens Ltd, Belgrade (In English, In Serbian), 02.11.2005, pp. 1-2.
- SFTC-DL2000 – Short Instructions for the Adjustments and Maintenance, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 05.01.2007, pp. 1-6.
- FTC-DL2000 – Short Instructions for the Installation and Adjustments, Technical Description, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian), 05.01.2007, pp. 1-6.
- FTC-DL2000 – Presentation, Siemens AG, Transportation Systems, Braunschweig, Germany, (In English, In Serbian, In Russian), 11.12.2007, pp. 1-12.
- Procedure Project Realisation, Technical Description, Siemens Ltd, Belgrade (In English, In Serbian), 28.09.2007, pp. 1-9.
- Boom Barrier Mechanism with Booms – type BDZ (Bulgarian State Railways) – Instructions for the Installation, Use and Maintenance, Technical Description, Siemens Ltd, Belgrade (In English, In Serbian), 24.01.2011, pp. 1-15.
- ELC – Electronic Interlocking System – Technical Description, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 11.10.2012, pp. 1-20.
- ELC – Instruction for Installation, Use and Maintenance, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 30.10.2012, pp. 1-54.
- ELC – Instruction for Installation and Use of program for SD&ER (Service, Diagnostic and Event Recording), Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 30.10.2012, pp. 1-12.
- ELC – Program of the examination in the probation work for the certification purposes, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 10.02.2013, pp. 1-12.
- ELC – Short Description - Brochure, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 22.02.2013, pp. 1-6.
- ELC – Functional Specification, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 30.10.2013, pp. 1-20.
- ERC (Electronic Rail Contact) – Short Description - Brochure, Signalling & Control Ltd., Belgrade, Serbia, (In English and In Serbian), 30.10.2012, pp. 1-10.
- ERC – Instruction for Installation, Use and Maintenance, V1.3, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 10.11.2012, pp. 1-31.
- ERC – Short Description - Brochure, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 21.02.2013, pp. 1-4.
- EMMI (Electronic Man Machine Interface) – Short Description - Brochure, Signalling & Control Ltd., Belgrade, Serbia, (In English and In Serbian), 20.02.2013, pp. 1-6.
- EMMI – Short Description - Brochure, Signalling & Control Ltd., Belgrade, Serbia, (In English, In Serbian), 21.02.2013, pp. 1-4.

## 18. Publications:

### Book:

- Lutovac N. D, "Universal Computer-Based Interlocking System" (In Serbian), Zadužbina Andrejević, Dražičeva 11, Beograd. The winner of the 8th tender for the best PhD Dissertation from the technical science, 2000, pp. 1-148, Edition "Dissertations", ISSN 0354-7671, ISBN 86-7244-182-6.

### Recension of the papers published in the international journals:

- IEEE Transactions on vehicular technology, on request of the Associate Editor Dr. M. Abul Masrur, 2004.



**International Journals:**

- Lutovac N. D, Lutovac A. T, "Towards an Universal Computer Interlocking System", Facta Universitatis (Nis), Series: Electronics and Energetic, Vol. 11, No. 1. (1998), pp. 25-49.

**International Conferences:**

- Lutovac N. D, Lutovac A. T, "Hardware of an advanced computer interlocking system", Proceedings of JUZEL – The 3rd International Scientific Conference of Railway Experts, Nis, Yugoslavia, October 3-4, 1996, pp. 91-95.
- Lutovac N. D, "Universal Computer Interlocking System", IRSE Australasian Conference, Launceston, Tasmania, November 15-16, 1996, pp. 1-16.
- Lutovac N. D, "Fail-safe signalling circuits design using repeater relays", Proceedings of JUZEL – The 4th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 2-4, 1997, pp. 106-111.
- Lutovac N. D, "The basis of a timing requirements for the signalling circuits design using repeater relays", Proceedings of JUZEL – The 4th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 2-4, 1997, pp. 112-117.
- Lutovac N. D, Lutovac A. T, "Software of an advanced computer interlocking system", Proceedings of JUZEL – The 4th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 2-4, 1997, pp. 74-79.
- Lutovac N. D, "Concept of the microprocessor interlocking system of 'Kirilo Savic' Institute", Proceedings of The International Symposium of IKS Belgrade, 1988, pp. 113-131.
- Lutovac N. D, Zivkovic B. D, "Directions of development and standardization of current computer-based railway interlocking systems", Proceedings of JUZEL – The 5th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 28-30, 1998, pp. 65-81.
- Müller G. N, Lutovac N. D, "SIMIS-W electronic interlocking for worldwide use", Proceedings of JUZEL – The 6th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 6-8, 1999, pp. 74-76.
- Lutovac N. D, Müller G. N, "Generalization of the signal aspects and aspect sequencing chart for the computer-based interlocking systems", Proceedings of JUZEL – The 6th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 6-8, 1999, pp. 99-103.
- Lutovac N. D, Lutovac A. T, "Diagnostics and recording of regular and irregular events of the universal computer-based interlocking system", Proceedings of JUZEL – The 6th International Scientific Conference of Railway Experts, V Banja, Yugoslavia, October 6-8, 1999, pp. 118-122.
- Lutovac N. D, D. B. Zivkovic, Lutovac A. T "Software Tools for Data Design of Universal Computer-Based Interlocking System" Proceedings of JUZEL – The 7th International Scientific Conference of Railway Experts, V. Banja, Yugoslavia, October 4-6, 2000, pp. 89-93.
- Lutovac N. D, Lutovac A. T, "Low Cost Computer-Based Level Crossing System" Proceedings of JUZEL – The 7th International Scientific Conference of Railway Experts, V. Banja, Yugoslavia, October 4-6, 2000, pp. 200-203.

**National Journals:**

- Lutovac N. D. Ducic, V. D, "Control device KU-1", (In Serbian), RAILWAYS, No.7. Belgrade 1988, pp. 782-783.
- Lazarevic Z. S, Lutovac N. D, "Track-locomotive interaction communication through the rails" (In Serbian), "Eletrozveze", Ljubljana 1990.
- Lutovac N. D, Avramovic Z. Z, "Fail-safe British Rail Signalling Principles", (In Serbian), RAILWAYS, Year 51, No.5, Belgrade, May 1995, pp. 488-494.
- Lutovac A. T, Lutovac N. D, The development of the Diagnostic Systems for the computer controlled Level Crossing Systems, (In Serbian), INFO M, Vol. 44, 2012, pp. 11-17.

**National Conferences:**

- Lutovac N. D, Ducic V. D, "KU – 1 Control device", (In Serbian), JUREMA – Yugoslavian Conference on the Automation and Safety of Railway Traffic, Kupari, October 1987, part 3, pp. 9.27-9.28.

- Avramovic Z. Z, Lutovac N. D, "Fail-safe techniques and concepts of microprocessor railway interlocking systems" (In Serbian), XXXII Yugoslavian Conference on Electronic and Telecommunications – ETAN, Sarajevo, Jun 6-10, 1988, part VIII, pp. 363-370.
- Avramovic Z. Z, Lutovac N. D, "Electronic rail signalling / safety systems" (In Serbian), Symposium Yugoslav Science Association – JAZU, Zagreb, November 9-11, 1988, pp. 271-274.
- Lutovac N. D, "Fail-safe central processing unit for railway microprocessor interlocking system" (In Serbian), XXXIII Yugoslavian Conference on Electronic and Telecommunications – ETAN, Novi Sad, June 12-17, 1989, part VIII, pp. 105-112.
- Lutovac N. D, Zivkovic B. D, "Model for the estimation of the reliability, safety and availability of the microprocessors railway interlocking systems", (In Serbian), JUREMA – Yugoslavian Conference on the Automation and Safety of Railway Traffic, Sibenik, September 1989, part IV, pp. 32-34.
- Lutovac N. D, "Fail-safe computer system for railway interlocking systems control", (In Serbian), JUREMA – Yugoslavian Conference on the Automation and Safety of Railway Traffic, Sibenik, September 1989, part IV, pp. 15-20.
- Lutovac N. D, "Microprocessor interlocking system as a factor of the railway traffic safety", (In Serbian), XI Yugoslav Symposium of Electronic in Traffic, Ljubljana, October 1989, pp. 37-40.
- Lazarevic Z. S, Lutovac N. D, "Track-locomotive interaction communication through the rails", (In Serbian), XII Yugoslavian Symposium of Electronic in Traffic, Ljubljana, October 1990, pp. 155-160.
- Lutovac N. D, "Outside devices interfaces for railway station microprocessor interlocking system", (In Serbian), XXXIV Yugoslavian Conference on Electronic and Telecommunications – ETAN, Zagreb, June 4-8, 1990, part II – III, pp. 177-184.
- Lutovac N. D, "Interlocking table transformation for microprocessor's control of railway signalling system, (In Serbian), XXXV Yugoslavian Conference on Electronic and Telecommunications – ETAN, Ohrid, June 3-7, 1991, part IX, pp. 505-512.
- Lutovac N. D, "Software for a railway station microcomputer interlocking system", (In Serbian), XXXVI Yugoslavian Conference on Electronic and Telecommunications – ETAN, Kopaonik, 1992, pp. 505-512.

**Ph.D. Dissertation:**

- Lutovac N. D, "Universal Computer-Based System for Railway Interlocking Control.", (In Serbian), PhD Dissertation, Faculty of Electrical Engineering, University of Belgrade, August 2, 1999, pp. 1-191.

**M.Sc. Thesis:**

- Lutovac N. D, "Microprocessors controlled railway interlocking systems of the passenger stations", (In Serbian), M.Sc. Thesis, Faculty of Electrical Engineering, University of Belgrade, September 29, 1988, pp. 1-208.

**Graduated Diploma Work:**

- Lutovac N. D, "Two-dimensional analyses of PIN Diodes in stationary working regime." (In Serbian), Graduated Diploma Work, Faculty of Electrical Engineering, University of Belgrade, June 28, 1983, pp. 1-113

**Patents:**

- Lutovac N. D, "Punctual train detector", P – No.: 1303/90, submitted on 06.07.1990, published in Patent Voice No. 5/92 from 31.10.1992.
- Lutovac N. D, "Long-range train detector", P – No.: 1302/90, submitted on 06.07.1990, published in Patent Voice No. 5/92 from 31.10.1992.
- Lutovac N. D, Petersen H-J, Kutschera C., (EN) Level Crossing Safety System, Siemens, PCT Patent 2006/ 056587, 01.06.2006.
- Lutovac N. D, Petersen H-J, Kutschera C., Level Crossing Safety System, Siemens, EPO Patent, European Patent Office No. EP1814768, 08.08.2007.