

# Curriculum Vitae / Resume

Update: 10-march-2025



(photo 2016)

## Personalia

Full (Family) Name: Mr (he/him) J.L.R. (John) **de Graaff**  
Given names: Jan Lambert Rudolf (calling name: **John**)  
Family situation: Single “part-time” dad for 2 daughters (now 10 and 14 years old)  
Title: Master of Science in Electrical Engineering (**MSc. – MSEE**)  
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## Summary

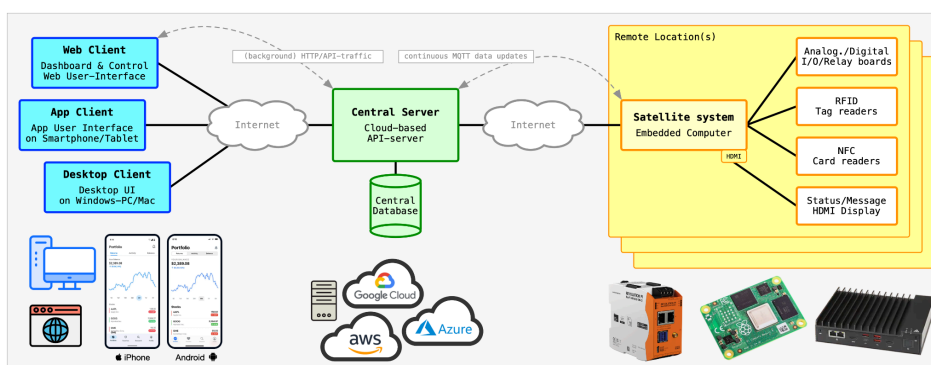
First thing: my career has been **extremely diverse** (as is my personality really ;-)  
To provide an overview, I have created a color-based diagram **>> here @ right >>**

I would describe myself professionally as an “**All-round Senior IT Engineer**”  
with above-average communication skills.

While the first part of my career was focused on **IT-Infrastructure** (Telecom, Data-Networking, and Linux), since 2020 my focus is on **Software Development**.

Because of my diverse knowledge and experience, I chose to **focus** on these fields:

1. **Embedded Software** / Real-Time / High-Performance / Microcontrollers  
*for which C++ is the clear best suited language (with Rust in 2nd place)*
2. **End-to-End Software systems** for managing remote “Satellite” systems  
*with sub-fields: Fullstack (Backend + Frontend) JavaScript / TypeScript*



3. **Linux Engineering** and **Remote Management & Monitoring** systems  
*with sub-fields: Virtualization, Containers, Kubernetes, CI/CD, DevOps*

A note on **Linux**: I have used Linux since 1994 (Slackware on 486SX), and I have since build 100's of systems (Cloud and Embedded), including **Kernel Modules**.

2025	
2024	
2023	Freelance
2022	SW Developer
2021	
2020	
2019	Freelance
2018	IT Consultant
2017	
2016	[ FairFlow ]
2015	Prod.Dev
2014	[ TWS ]
2013	Network Engineer
2012	Network Architect
2011	ISP core design
2010	&
2009	SW-dev
2008	for Network
2007	Management
2006	[ sole-proprietor ]
2005	Network Engineer
2004	SW developer
2003	Trainer/Instructor
2002	
2001	[ Lucent ]
2000	Technical
1999	Sales
1998	Consultancy
1997	
1996	Technical
1995	University
1994	
1993	MSc.
1992	
1991	
1990	

## Education

sep-90 > aug-97	<b>Master of Science in Electrical Engineering (MSEE, MSc. EE)</b> at the Delft University of Technology (DUT, NL: TUD) in NLD
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Average degree (also my actual graduation degree): **8** (in the Dutch 10-based grade system)

sep-91 > sep-92	Bachelor (equivalent) in <b>Computer Science</b> (NL: Technische Informatica) at DUT in NLD
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sep-84 > jun-90	<b>Atheneum-B (VWO)</b> at “OSG Nieuwediep” in Den Helder (NLD)
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## Courses, Training, and Certifications

sep-2018	ICS2.org <b>CISSP</b> (Cyber Security Professional) certificate
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may-2017	Cisco <b>CCNP</b> Routing & Switching (today called “Enterprise”) certificate
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jun-1998	<b>NIMA-A</b> Marketing certificate
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## Work Experience

[ items below with a company logo and (\*) are my own companies, in which I had part or full ownership ]

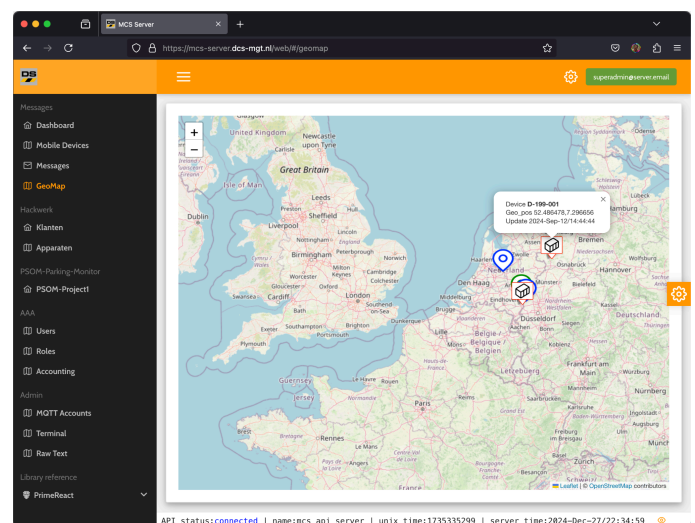
jan-22 > dec-24	Freelance <b>Fullstack Developer</b> voor <b>DeconSystems BV</b>
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Tags: Linux, Node.js, React.js, Vue.js, CouchDB, PostgreSQL, Python, MQTT, Monitoring

*A long-term contract for developing diverse software projects.*

DeconSystems is a specialist in the development of electrical-electronic solutions for industry, logistical, and building-security applications.

I was tasked to design and develop:  
[1] a central cloud server with a REST API, with its own admin Web UI, an MQTT broker+agent, and  
[2] an embedded Linux platform, to be used on Raspberry Pi or other small and fanless SBC devices, with its own REST API and Web UI.



jul-24 > oct-24

**Software Engineer** voor **Atomeus Data Solutions BV**

Tags: [Linux](#), [Node.js](#), [React.js](#), [PostgreSQL](#), [Python](#)

*A full-time position at Atomeus, that ended without my doing after 4 months into the 1-year contract due to a change in business strategy.*

Atomeus is an expert in data-software solutions, including RPA (Robotic Process Automation), Data Engineering, and generic AI:ML (Machine Learning) solutions.

I was to be the core architect and senior developer for their current RPA platform written in Python. Then over time, I would redesign their entire cloud platform to be a robust and scalable platform for many new data software solutions, but due to mention business change, I only got to develop a Web-App in React.js for RPA monitoring.

jul-15 > jun-24

**Freelance Specialist** vanuit **De Graaff Engineering (\*)**

Tags: [Linux](#), [Python](#), [SQL](#), [SNMP](#), [PKI-CA](#), [X.509 SSL certificates](#), [Monitoring](#)

*My personal (sole-proprietor) software and IT services company to take on small projects next to other (full/part-time) jobs.*



Some notable projects:

- [jul-15>nov-15] part-time project as **Security Specialist** at “De Haagse Hogeschool” to set up a MS Server PKI (Public Key Infrastructure) with multi-level CA (Certificate Authority) systems for automated X.509 “SSL” certificate generation
- I developed (for TWS, my old company in 2008-2014) a cloud-based software system to monitor and control the transmit-power of microwave radio units, called **Remote-ATPC** (Automatic Transmit Power Control). This was a Linux daemon (written in Python) and a web-UI (written in Python Fast-API) to display logs and graphs for monitoring.

mar-22 > may-22

Freelance **Senior Software Engineer** bij **Viterra BV**

Tags: [Node.js](#), [React.js](#), [PostgreSQL](#), [Monitoring](#), [Ansible](#)

*A full-time freelance/contractor position at the Dutch office of Viterra, a worldwide agriculture logistics and trading company.*

I was part of a Firewall migration team for firewall appliance replacement in all offices worldwide and to set up a centralized, policy-based monitoring and control solution. Where others focused on the Fortigate configuration and (hierarchical, deeply structured) cyber-security policy definitions, I was tasked to develop a web-based umbrella dashboard and control system.

jun-21 > may-22

Freelance **Network Automation DevOps Engineer** bij **ING Bank**

Tags: Python, Ansible, Node.js, React.js, MS Azure Cloud, DevOps, CI/CD

*A full-time freelance/contractor position at the ING Bank.*

I was part of a LAN network migration team, to prepare and automate a fork-lift upgrade of all network equipment in all (customer services) offices worldwide.

My task was the development of a web-based dashboard and central-control system, that connected to internal APIs of the HP-Aruba Cloud Tools for reading-writing the status and configuration of all components.

jul-21 > dec-23

Freelance **Fullstack Software Developer** at **TokenMe BV**

Tags: Linux, Node.js, React.js, MongoDB, PostgreSQL, MQTT, LoraWAN, C++, RTOS, Monitoring

TokenMe develops wireless tracking systems using “Tokens” which are wearable microcontroller devices with multiple sensors and using multiple wireless protocols (notably UWB) to be discovered by “Anchors” which are wall-mounted (indoor) or pole-mounted (outdoor) devices that detect tokens in its service area (up to several 100’s per 40 m2). Anchors upload their data continuously, using 4G/5G mobile and/or LoraWAN, to a central/cloud server for analysis and reporting.

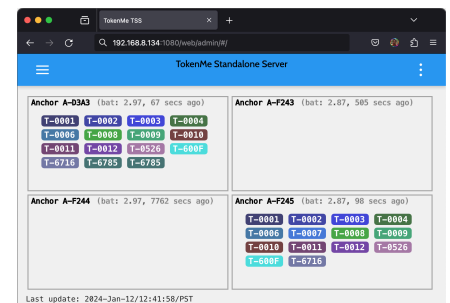
*[ below picture shows “my” Demo-kit TCS server, 1 Anchor (top-right), and 2 Tokens (bottom-right) ]*

I designed and developed a cloud-based backend data server (called TokenMe Cloud Server or TCS) using Node.js code on a Linux-Debian VPS cloud-server, using a dual database storage strategy (PostgreSQL for large data, and MongoDB for flexible data), and a REST-API.



I also developed a related project: an “engineering dashboard” which is a Web-UI frontend using React.js

I used a TDD (Test Driven Development) approach, CI/CD pipelines, and Git code management on GitHub.



I also worked with a colleague to take his C++ microcontroller code to the next level (because of the extreme low-power and real-time requirements). These tokens use the QN9090 ARM Cortex-M4 based MCU from NXP, and MCUXpresso IDE (Eclipse based) and SDK with FreeRTOS support.

jun-21 > sep-21

Freelance **Embedded SW Developer** at **Applied Nanomaterials BV**

Tags: C, Microcontrollers

*A part-time freelance/contractor position for the continued development of a microcontroller system.*

I developed a microcontroller (Intel MCS-51/8051) program for robot control.

nov-20 > jun-21

Freelance **Network Specialist** at **Eindhoven Fiber Exchange (EFX)**

Tags: Ruby-on-Rails, PostgreSQL, Vue.js, Monitoring

*A part-time freelance/contractor position for architecture consultancy and software development.*

I designed and supported the sourcing of a new FTTB (Fiber to the Business) network.  
I also developed a CMDB tool using modern web technologies.

jul-20 > oct-20

Freelance **Specialist API Standards** at **Logius** (government)

Tags: OAuth protocol stack, Github Actions/Webhooks, ReSpec W3C

*A full-time freelance/contractor position at Logius, a specialized IT services institute part of the Dutch Ministry of internal affairs.*

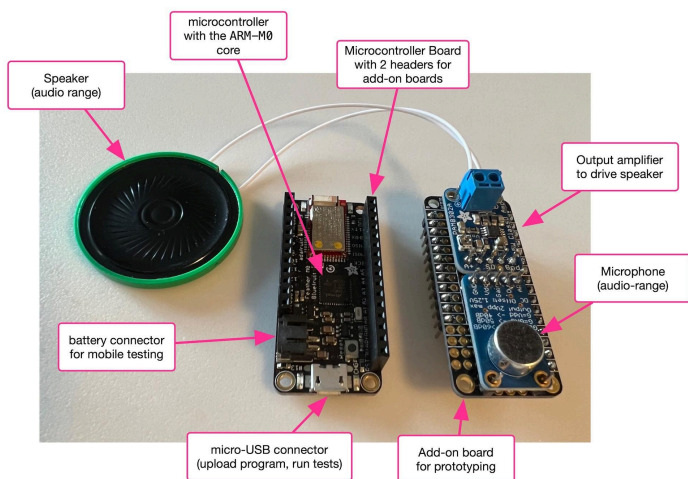
A short project where I supported two new standards that are widely used within the Dutch government (and presumably outside as well): “API Design Rules” and “OAuth-NL-profiel”.

jun-20 > oct-20

Product development in **Anti Virus Sound Bubble (\*)**

Tags: Microcontroller Embedded & Electronics development, C / C++, DSP

*One of my many technology & business ideas, for later use as a startup company, if this (early) development was a success (which it wasn't).*



The goal was to develop a small wearable appliance with sonic (sonar-like) sensors to detect other appliances, the distance to them, and the duration of proximity.

The idea originated from the call for solutions during the COVID-19 pandemic. I am also the writer and inventor of a multi-region patent for a core part of this technology.

This project received a government grant for innovation.



aug-19 > mar-20

Freelance **Senior Architect Connectivity** at **Logius** (government)

Tags: Networking protocols (MPLS, BGP), Doc-mgt: SharePoint, Jira, Confluence.

*A full-time freelance/contractor position at Logius, part of the Dutch Ministry of Internal Affairs.*

I worked in a group called **Diginetwerk** which supported a range of Data Network and Interconnection facilities for the national government and ministries in The Hague.

The main topics were:

- **Haagse Ring** – Data connections between ministry buildings in The Hague.
- **KPS** – “Koppelpunt Publieke Sector” (English: Network cross-connect for Public Sector).
- **Central DNS-NTP facilities**

I followed an Internal training with a certificate in SAFe (Scaled Agile Framework), which is the central Agile / Scrum method used at Logius.

jan-19 > jul-20

Product development in **MURAPI BV (\*)**

Tags: Hardware Server development, Product development, Monitoring



Form-Factor:  
Set-Top Box



Form-Factor:  
DIN-Rail



Form-Factor:  
Rackmount

*One of my many technology & business ideas, for later use as a startup company, if this (early) development was a success (which it wasn't).*



The goal was to develop a “Combined Hardware-Software Appliance Platform” for industrial computer-servers, with a focus on remote-site deployment with central management.

sep-18 > dec-18

Product development in **Tridentity BV (\*)**

Tags: Cyber Security, Encryption

*One of my many technology & business ideas, for later use as a startup company, if this (early) development was a success (which it wasn't).*



The goal was to develop an authentication and authorization system based on pseudonymity, where the identity of a person during an authentication process or authorization process, would not need to be revealed.

jun-18 > jan-19

Freelance **Corporate Security Manager** at **Kadant** in Weesp, NLD

Tags: [Cyber Security](#), [IT-Architecture](#)

*A full-time freelance/contractor position at the headquarters of the Kadant European operations.*

I developed a corporate cybersecurity policy and implemented parts thereof in a Firewall migration and Office WiFi migration projects.

mar-17 > may-18

Freelance **Senior Network Architect** at Air Traffic Control (**ATC**)

Tags: [Data Networking](#), [IT Architecture](#)

*This was my first full-time freelance/contractor position as a (generic) IT specialist.*

I have developed an architecture for the network modernization project called "Network 2.0". This was a multi-layered, multiple resilience (High Availability, HA) network design using the MPLS transport stack in both LAN, MAN, and WAN.

apr-15 > feb-17

Product development in **FairFlow Technologies BV (\*)**

Tags: [Linux](#), [C / C++](#), [Python](#), [Swift](#) ([Apple iOS](#) / [Mac](#))



After TWS I wanted to set up something completely different, something not concerned with 24/7 support, and something **not working with products and technologies that are designed and developed by other minds** – I wanted to **create my own technology**, so I wanted to create innovation !!

During my years at TWS, I have clearly seen the **technology gap** between the unreliable TCP/IP data networks that our industry is building using common technologies, and the (part theoretical) technologies (such as ATM cell-based transport protocols) that I studied at university – and I found a way (method) to span this gap and provide real transport quality guarantees in high volume connections, which is called **Quality of Service (QoS)** in the industry.

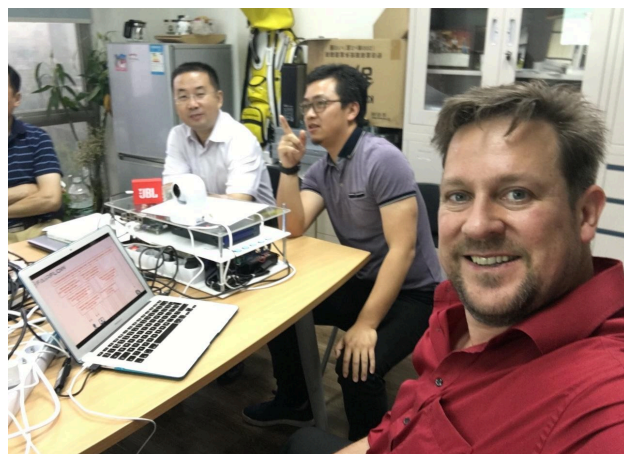
I also went to talk to a professor at the Delft University of Technology, to validate my ideas, and to maybe start a **PhD project** on this topic (which I did not pursue further, yet).

Before founding this **High-Tech Startup**, I first scouted for a non-tech (financial) co-founder, and I found one at the Rotterdam School of Management (RSM) at Erasmus University. Together with him, we joined the Launch-Lab program at the **Yes!Delft Tech University Incubator** in Delft, and shortly after we founded the company with 200k euros start-up capital (100k from a business angel).

Unfortunately, during the next financial round (series-A of 2 million euros), while pitching to investors in both Europe and China (the home country of my associate), we lost interest and folded.



Me holding our “large prototype” in our office



Me demo'ing our “small prototype” in Beijing

Despite the **business failure**, this was a **success on a technological level**:

[1] we did file a worldwide (multi-region) **patent** (which makes me an official inventor ;- ) (with patent nr = WO2017186720A1, look it up on <https://patents.google.com>), and

[2] we did develop a **prototype** using a custom **Linux kernel module** (written in C and C++) to manipulate low-level queuing decisions and I developed software in Python as a background daemon on embedded Linux SBC devices, that locally interfaces with this kernel module, and remotely interfaces with a MacOS program written in Swift for UI and demo control.

sep-07 > mar-15

**Network Architect & Engineer** in **TWS (\*)**

Tags: Data Networking, IT Security, Perl, SQL, Linux, X.509 SSL certificates, Monitoring



I was the **co-founder** and (sole) **Architect** and **Senior Engineer** of TWS.

We delivered and maintained Company Data Networks (LAN, MAN, and WAN), and we delivered Internet Access Services (IAS) as a registered Internet Service Provider.

This company was a BV, of which I was 25% owner, and that company was part of the TWS group of 4 companies, with a total of 150 employees and 16 million euros turnover in 2014.

We had hundreds of clients with **thousands of locations** all over the Netherlands, and many locations had a 4-hour response-time SLA (Service Level Agreement) for urgent maintenance & repairs:

- Province-level offices & remote sites (NL: Provincies & Waterschappen)
- Municipal offices (NL: Gemeenten)
- Harbour offices (NL: Havens)
- Public Education institutes (NL: Middelbare & Hogescholen)
- Housing associations (NL: Woningcorporaties)
- Health Care (NL: Zorginstellingen)



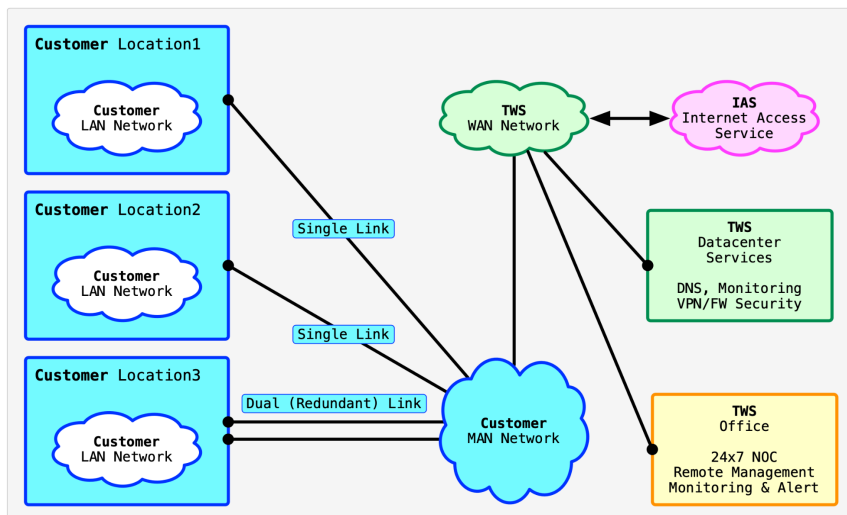


This diagram shows the services that we typically delivered ==>

Next to a Company-owner and Manager, Architect, and Engineer, I was also a **Software Developer** for some internal projects, mainly for **Network Maintenance** and **Network Automation**.

These were the main applications:

- **RMV** (Remote Monitoring over VPN, continuation of earlier development) totaling 150+ units
- **FlexVPN**: a hub-spoke VPN system for central management and support of field engineers
- **NetAdmin**: a CMDB management system also providing RADIUS+DHCP services.



I also helped designing, building and managing (remote monitoring) the international business of TWS, which was **Low-latency Microwave connections** between Trading Houses for HFT clients (High Frequency Trading) such as FlowTraders (sites: London => Frankfurt => Zurich => Milan)

jan-04 > aug-07

**Product development in SmallBizConcepts BV (\*)**

Tags: Technical Instructor, Data Networking, Perl, PHP, SQL, Linux, X.509 SSL certificates, Monitoring

This company was my first “limited-liability company” (NL:BV), together with a business associate. My worldwide trainings of my previous enterprise continued here. The core business model was to develop a standardized Microsoft Business Server (File server, Email, Calendar, etc.) for SME companies, with a small company (20 empl.) as launching customer.

I also took on projects as a Software Developer, with some notable projects:

- development of a remote monitoring and management solution called **RMV** (Remote Management over VPN) – an embedded Linux appliance with a VPN connection for remote management, a Perl script for monitoring of local devices.
- development of the **Ingosur Web Application** for providing **Automated Car Insurances Registration** for dealers, including PDF document generation. Written in PHP and code version management in SVN (before the rise of Git), data store in MySQL, a separate Admin Web-interface, and a XML-RPC API interface for third-party access (before REST API).

aug-01 > dec-03

**Freelance Trainer-Specialist in NetworkConcepts (\*)**

Tags: Technical Instructor, Data Networking, IT Security, Perl, Linux

In mid-2001 I decided to become an **entrepreneur**.

Next to small (data networking and security) projects, I was a trainer/instructor for the Design and Installation training of the **SYSTIMAX products**, which were 3/4-day **training sessions** in the Netherlands, then Europe-wide, and later **worldwide**.

I also was a freelance software programmer, with this notable project:

- development of a **Private Search Engine** for Rijkswaterstaat (Dutch infrastructure authority)



apr-98 > aug-01

**Technical Sales Consultant** bij **Lucent Technologies**

Tags: Sales Consultancy

From my drive to learn and grow, I found a new position within Lucent as a **Technical Sales Consultant** for the **SYSTIMAX products**, where I needed to communicate deep technical or abstract topics to people of various backgrounds, and soon I was writing and delivering **technical (keynote) presentations** to audiences up to 300.

I also decided to follow an **course on marketing** ( NIMA-A) to better understand the business and sales aspects and psychology of it all.

I also traveled a lot worldwide (this was all before the dot-com bubble burst). Because of my experience in standardization, I was charged to be the **Lucent representative** for the european standardization of the LC fiber connector, which got me flying around even more.



sep-97 > mar-98

**Junior Systems Engineer** at **Lucent Technologies Bell Labs**

Tags: Systems Engineering

This was my first full-time job at **MSc. level**.

**Lucent** was a split-off from **AT&T** and the renowned **Bell Labs** went with it (today **Nokia**). I was involved in the international standardization of the **SDH** transport protocol family. I attended many **International Standardization** meetings throughout Europe.

dec-96 > jan-97

**Software developer** at **TNO (TNO-FEL lab)**

Tags: Delphi

A student position to create a Delphi program for geo-positioning and simulation of helicopter tactics.

mar-95 > aug-96

**Software developer** at **MTO BV** (side project next to study)

Tags: C, Delphi

A student position where I created my first “real” software systems:.

- a **Device Driver** written in C for the 8051/MCS51 microcontroller, which was a trackerball pointer device with RS-232 serial interface.
- a **Delphi** (Object Pascal) program for Windows 3.x which was a **Product Catalog** using an internal SQL database and packaged on a CD-ROM to be handed out to 1000+ people at the yearly Machevo industrial trade shows.