

## **Maciej Sobczak**

I live and work in the Warsaw area, Poland.

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### **Summary**

*+25 years of international experience in software engineering.  
Keys : formal methods, safety-critical, embedded systems,  
core infrastructure (distributed systems, databases),  
leader, mentor, product creator.*



### **Education**

**1997 - 2003 M.Sc., 2003-2004 Ph.D. (not finished)**

Warsaw University of Technology,  
Faculty of Electronics and Information Technology.

**Main field of studies:** Software Engineering and Information Systems.

### **Job Experience**

**April 2024 - (ongoing) ADT Group, Warsaw**

- **Position:** Head of Software Engineering
- **Achievements:** I have led the complete industrial computer-vision product lifecycle from technical concept, through development leadership, to customer relationship building and final deployment.

**October 2014 – March 2024 GE Aerospace, Warsaw**

- **Position:** Principal Engineer (Controlled Title Holder)
- **Achievements:** I took part in software lifecycle activities in large-scale embedded avionics systems. I have promoted adoption of formal methods in such systems. I have trained and guided other engineers in effective use of safety-critical processes and standards like DO-178C and MISRA-C. I have contributed to internal quality standards and guidelines.

**May 2012 – September 2014. X-Trade Brokers DM S.A., Warsaw**

- **Position:** Senior Developer, Team Leader, Scrum Master
- **Achievements:** XTB is an innovative online broker with a range of products in the area of online trading. I have led a team of developers working on public API services that allow external access to the trading system. I was also involved in general reliability engineering and recruitment activities.

**June 2010 – (ongoing) Inspirel, Warsaw**

- **Position:** Founder, consultant
- **Achievements:** The Inspirel company is a mean to promote my personal projects and independent technical activities. I have conducted numerous consulting activities in the area of distributed systems (the YAMI project), database interfacing (the SOCI project) and general mentoring on software practices.

**March 2005 – February 2011. European Organization for Nuclear Research (CERN), Geneva**

- **Position:** Middleware Team Leader
- **Achievements:** I have led a team of engineers responsible for proper operation of central middleware services in the accelerator complex. I took responsibility for ensuring fault-free service during critical period of the Large Hadron Collider accelerator start-up.

I will deliver description of earlier positions and achievements on demand.

## **Independent projects**

My main independent projects are published on the Inspirel website: <http://www.inspirel.com>

- YAMI4, Messaging Solution for Distributed Systems  
This project offers a set of libraries for multiple platforms and programming languages, providing messaging infrastructure for distributed systems. It was used in production systems in several industrial domains, from highway monitoring through gas measurements to factory process control.
- Formal Methods Toolkit and Formal Assistant  
The toolkit and assistant are libraries for the Wolfram computing platform, supporting modeling, formal reasoning and code generation in the domain of formally-verified systems.
- SOCI  
This project was developed as an open-source library for accessing relational databases in C++ and with contributions from multiple developers become one of the most successful database libraries, available as standard packages for Linux, FreeBSD and similar systems.  
The upstream project is hosted at <https://soci.sourceforge.net/>

## **University collaborations**

I was an assistant supervisor, representing the “industry” side of the Ph.D. thesis by Paweł Zakrzewski, titled “An Agile Framework Application for Safety Critical Software Development in Avionics”, finally granted at the Warsaw University of Technology, Faculty of Management.

## **Professional memberships**

In the period of 2010-2020 I was a direct member of *Ada-Europe*, an international organization promoting the use of Ada and sharing the industrial experiences related to safety, security and reliable software construction.

## **Publications**

### **Books:**

- “*Formal Methods Toolkit*”, published by Lulu, describes the set of packages for using formal methods within the Mathematica computing environment.
- “*Ada and SPARK on ARM Cortex-M*”, published by Lulu, explores the idea of using the Ada programming language on microcontrollers from the ARM Cortex-M family.
- “*Programming Distributed Systems with YAMI4*”, published by Lulu and regularly updated following the evolution of the YAMI4 product (Inspirel).

## **Articles and videos**

In earlier years I have authored numerous articles for programming journals like Ada User Journal, Software Developer's Journal, C/C++ Users Journal and Dr. Dobb's Journal.

More recently, I have published technical videos on my YouTube Channel, <https://www.youtube.com/user/inspirel>

## **Consultantships**

I have conducted numerous consulting activities related to good programming practices to engineering teams in Switzerland, Italy and Poland.

As a reviewer, I have also contributed to the Polish translation of the “Modern C++ Design” book by Andrei Alexandrescu, translated by Grzegorz Jakacki.

The home page of this translation is at <http://www.nowoczesne-cplusplus.com/>

*Disclaimer: No AI or LLM was hurt during preparation of this CV.*