

Senior Java Developer (m/f/d)

About Virtual City Systems

Virtual City Systems (VCS) is a software company based in Berlin and Grafing (near Munich). Since 2005, we have supported customers in creating, maintaining, and using 3D city models. After starting out as a service provider and software reseller, we began developing our own 3D geodata infrastructure solution in 2013 to manage, visualize, and use 3D geodata. Today, we are one of Germany's leading providers of Urban Digital Twin solutions.

Our customers are primarily municipalities and state surveying authorities, and increasingly commercial organizations implementing digital 3D facility cadastres. Our solutions build on established open-source projects such as CesiumJS, OpenLayers, and the 3D City Database. We place strong emphasis on open standards and interfaces, including OGC CityGML, OGC API Features, OGC WMS/WFS, OGC GeoJSON, OGC 3D Tiles, and more.

Driven by the continued digitalization of public administration and trends such as Digital Twins, Urban Data Platforms, and Smart City initiatives, demand is growing for solutions that combine 3D geodata with domain-specific applications in areas like planning, environment, simulation, land administration, and citizen participation. As a solution provider and expert in 3D geoinformation, VCS is well positioned in this market and continues to grow. To support this growth, we are expanding our development team with a focus on database development (3DCityDB and VC Database) and Java-based data conversion processes.

Your Responsibilities

We are looking for a motivated, experienced Java Developer (m/f/d) to join our VC Suite development team. In this role, you will further develop and maintain our VC Database (based on the open-source 3D City Database¹) as well as our 3D Tiles converter. You will work on innovative Digital Twin solutions and play a key role in the technical evolution of our software products. Your responsibilities include:

- Further develop and maintain the open-source 3D City Database (<https://github.com/3dcitydb>) and the VC Database built on top of it
- Develop, optimize, and maintain our 3D Tiles converter to transform input data (vector data, CityGML, CityJSON) into the OGC 3D Tiles standard
- Collaborate with the VC Suite development team to continuously improve our software products
- Design and develop web-based OGC interfaces (e.g., OGC API Features)
- Process large data volumes efficiently (streaming, chunking, parallel algorithms)
- Support CI/CD build, test, and deployment processes

¹ <https://github.com/3dcitydb>

Your Profile

- A degree in Computer Science, Geoinformatics, or an equivalent qualification
- Strong expertise in PostgreSQL/PostGIS, in particular:
 - Design and implementation of relational database schemas
 - Development using SQL and PL/pgSQL
 - Use of spatial data types and functions
- Very good knowledge of Java development, including experience with:
 - JDBC
 - XML/JSON (including streaming, validation, schemas)
 - Concurrent programming and parallel algorithms
 - GIS libraries (e.g. GeoTools)
 - Computational geometry and geometry processing
 - Build tools (Gradle/Maven)
 - Automated testing (e.g. JUnit, Testcontainers)
 - Use of modern AI-assisted tools
- Experience developing REST-based web services using OpenAPI, Spring, or JAX-RS
- Experience working on larger software projects, and confidence with:
 - Version control (e.g. Git)
 - Containerization (e.g. Docker)
 - CI/CD workflows (e.g. GitLab)
- Enthusiasm for programming, algorithmic challenges, open standards and data models, and teamwork
- A structured, independent working style
- Ideally, experience with 3D GIS standards such as CityGML, CityJSON, and 3D Tiles, as well as an affinity for geospatial topics
- Very good English skills (written and spoken); German is a plus but not required

What We Offer

- A full-time or part-time position with flexible weekly working hours
- A friendly, experienced team that also enjoys optional activities outside of work (e.g., company outings, running events, and sports)
- The opportunity to contribute ideas to our product development
- Support for your professional development and encouragement to contribute to open-source projects
- Subsidized public transport ticket (Germany Ticket)
- Optional company pension plan

Are you interested? Please email us at info@vc.systems.