EU-Transparency Register of interest representatives - 510083513941-24

PROPOSAL: BI-MONTHLY TECHNICAL WORKSHOP SERIES ON OPEN GEOSPATIAL TOOLS EMPOWERING PROFESSIONALS WITH PRACTIAL GIS SKILLS

Registration Form

The geospatial sector is rapidly evolving as digital technologies become increasingly important in mapping, spatial analysis, infrastructure planning, environmental monitoring, and land management. Today, professionals who work with geographic information need practical skills that allow them to efficiently collect, manage, analyze, and visualize spatial data.

To support this growing demand, we propose a **recurring bi-monthly technical workshop series** dedicated to building practical skills in **modern open-source geospatial technologies**.

This program is designed for **beginners, professionals, and individuals interested in GIS and spatial data**, who want to strengthen their technical knowledge and gain hands-on experience using widely adopted tools such as **QGIS and QField**. The workshops focus on real-world workflows including data visualization, GPS-based data collection, spatial analysis, and professional map production.

Rather than theoretical lectures, the workshops emphasize **practical learning through guided exercises and real examples**, allowing participants to directly apply what they learn during the session.

Each workshop will be delivered **online in an interactive format**, ensuring accessibility for participants from different regions. To maintain a high-quality learning experience, the number of participants will be **limited to 15 per session**, allowing for direct interaction, discussion, and personalized support throughout the training.
If demand exceeds the maximum number of participants, additional workshop sessions may be organized to accommodate all interested attendees while maintaining the same level of quality and interaction.

Participants will not only gain valuable technical skills but will also become part of a **growing community of professionals using open geospatial technologies**.

All participants will receive an **official Certificate of Participation issued by CLGE** recognizing their successful completion of the training.

Workshop 1
Introduction to QGIS & Your First GIS Project
Duration: 4 Hours
Format: Live Online Interactive Workshop
Maximum Participants: 15
Cost: 80 Euro per Participant
Language: English
Proposed date:

- 8 September
- 9 September
- 10 September
- 28 September

Workshop Overview

Geographic Information Systems (GIS) have become essential tools for decision-making, planning, environmental management, infrastructure development, and location-based analysis. QGIS is the world's leading open-source GIS platform and is used by governments, municipalities, universities, NGOs, and private companies across the globe.

This hands-on workshop is designed specifically for beginners who would like to understand the fundamentals of GIS and learn how to use QGIS effectively in their daily work or studies. No prior GIS experience is required.

Through a combination of live demonstrations, practical exercises, and real-world examples, participants will learn how to create, manage, analyze, and visualize spatial data. The workshop follows a project-based approach, allowing participants to build a complete GIS project from start to finish while learning the core principles of modern geospatial technologies.

What You Will Learn

1. Introduction to GIS and Spatial Thinking

- What is GIS and why is it important?
- Real-world GIS applications in urban planning, environmental management, transportation, utilities, and smart cities
- Understanding spatial data and geographic information

2. Getting Started with QGIS

- Installing and configuring QGIS
- Understanding the QGIS interface
- Project management and workspace organization
- Managing plugins and useful extensions

3. Understanding Geospatial Data

- Vector and raster data models
- Common GIS data formats (Shapefile, GeoPackage, GeoJSON, CSV, WMS, WFS)
- Coordinate Reference Systems (CRS) and map projections
- Data quality and metadata basics

4. Loading and Visualizing Data

- Importing spatial datasets into QGIS
- Connecting to online map services
- Styling and symbolizing geographic features
- Creating thematic maps and visual representations

5. Basic GIS Analysis

- Attribute queries and data filtering
- Spatial selection and overlay operations
- Buffer analysis and proximity calculations
- Introduction to geoprocessing tools

6. Creating Professional Maps

- Map design principles
- Labels, legends, scale bars, and north arrows
- Layout Manager and map composition
- Exporting maps to PDF and image formats

7. Building Your First GIS Project

Participants will work on a complete practical GIS project using real-world datasets. The project will demonstrate a typical GIS workflow from data acquisition to final map production.

Learning Outcomes

By the end of the workshop, participants will be able to:

- Understand the fundamental concepts of Geographic Information Systems
- Navigate confidently within the QGIS environment
- Import, manage, and visualize geospatial data
- Perform basic spatial analysis and geoprocessing operations
- Create professional-quality maps for reporting and presentations
- Develop and organize a complete GIS project workflow
- Apply GIS techniques to their own professional or academic projects

Who Should Attend?

This workshop is ideal for:

- Students and young professionals
- Surveyors and geospatial practitioners
- Urban and regional planners
- Environmental specialists
- Engineers and infrastructure professionals
- Municipal staff and public-sector employees
- Anyone interested in learning GIS using open-source software

Requirements

Participants should have:

- A computer with QGIS installed (installation instructions will be provided beforehand)
- A stable internet connection
- Basic computer skills

Workshop 2
QField, Digital Data Acquisition & Map Creation in QGIS
Duration: 4 Hours
Format: Live Online Interactive Workshop
Maximum Participants: 15
Cost: 80 Euro per Participant
Language: English

Workshop Overview
Efficient and accurate field data collection is a critical component of modern GIS projects. Organizations across sectors such as urban planning, environmental management, utilities, infrastructure, agriculture, and smart cities increasingly rely on mobile GIS solutions to collect, update, and manage geospatial information directly in the field.
QField is one of the world's leading open-source mobile GIS applications, designed to work seamlessly with QGIS. It enables users to collect spatial data, perform field inspections, capture photographs, record attributes, and synchronize information between field teams and office-based GIS environments.
This hands-on workshop is designed for GIS users, planners, surveyors, engineers, researchers, and decision-makers who would like to learn how to efficiently collect and manage geospatial data using QField and QGIS. No prior experience with mobile GIS is required.
Through a combination of live demonstrations, practical exercises, and real-world examples, participants will learn how to prepare GIS projects for fieldwork, collect and update data using mobile devices, synchronize information between QField and QGIS, and create professional maps from collected field data. The workshop follows a project-based approach, allowing participants to complete a full workflow from project preparation and field data acquisition to final map production.

What You Will Learn
1. Introduction to Mobile GIS and Digital Data Acquisition
- What is mobile GIS and why is it important?
- Benefits of digital field data collection compared to traditional methods
- Real-world applications in urban planning, environmental monitoring, infrastructure management, utilities, and smart cities
- Introduction to QField and the QGIS ecosystem

2. Getting Started with QField
- Installing and configuring QField on mobile devices
- Understanding the QField user interface
- Navigating maps and GIS layers in the field
- Working offline and online
- Overview of QFieldCloud

3. Preparing QGIS Projects for Field Work

- Creating field-ready GIS projects in QGIS
- Configuring attribute forms and data entry fields
- Setting up value maps, dropdown menus, and validation rules
- Organizing layers and symbology for mobile use
- Preparing offline datasets

4. Digital Data Collection in the Field

- Creating new spatial features
- Editing existing GIS data
- Collecting points, lines, and polygons
- Capturing photographs and attachments
- Recording field observations and attributes
- Using GPS and device positioning for accurate data collection

5. Synchronizing and Managing Field Data

- Introduction to QFieldCloud
- Uploading and downloading projects
- Synchronizing field data between office and field teams
- Managing multiple users and collaborative workflows
- Data quality assurance and validation

6. Processing Collected Data in QGIS

- Importing field data into QGIS
- Reviewing and validating collected information
- Editing and cleaning datasets
- Basic GIS analysis of collected field data
- Updating and maintaining geospatial databases

7. Creating Professional Maps from Field Data

- Styling and symbolizing collected information
- Creating thematic maps and visualizations
- Labels, legends, scale bars, and map elements
- Layout Manager and map composition
- Exporting maps to PDF and image formats

8. Building Your First Mobile GIS Project

Participants will work on a complete practical GIS project using real-world datasets. The project will demonstrate a typical mobile GIS workflow from project preparation in QGIS, field data collection using QField, synchronization through QFieldCloud, data validation, and final map production in QGIS.

Workshop 3
Working with Multiple Geospatial Data Sources in QGIS
GPS, Point Clouds, CAD & Esri Data Integration
Duration: 4 Hours
Format: Live Online Interactive Workshop
Maximum Participants: 15
Cost: 80 Euro per Participant
Language: English

Workshop Overview
Modern GIS projects require the integration of data from various sources, formats, and technologies. GIS professionals often need to combine GPS measurements, point cloud datasets, CAD drawings, satellite imagery, open data, and Esri-based datasets within a single GIS environment to support planning, analysis, decision-making, and visualization.
QGIS provides powerful tools for importing, managing, transforming, and analyzing a wide range of geospatial data formats. Understanding how to work with different data sources efficiently is a critical skill for GIS professionals working in urban planning, surveying, engineering, environmental management, infrastructure development, and smart city projects.
This hands-on workshop is designed for GIS users, surveyors, planners, engineers, and researchers who would like to learn how to integrate and manage multiple geospatial data formats in QGIS. Participants will gain practical experience working with real-world datasets and learn best practices for data conversion, quality control, and interoperability.
Through live demonstrations, practical exercises, and project-based learning, participants will learn how to combine GPS, CAD, point cloud, raster, and Esri datasets into a unified GIS project and create meaningful outputs for analysis and decision-making.

What You Will Learn
1. Introduction to Geospatial Data Integration
- Why data interoperability is important in GIS projects
- Common geospatial data sources and formats
- Challenges of working with multiple data providers
- Best practices for data management and organization

2. Working with GPS Data in QGIS
- Understanding GPS data formats
- Importing GPX files into QGIS
- Visualizing GPS field data
- Converting GPS measurements into GIS layers

3. Working with CAD Data
- Understanding CAD and GIS differences
- Importing DWG and DXF files into QGIS
- Managing CAD layers and attributes
- Coordinate system considerations

- Converting CAD drawings into GIS datasets

4. Working with Point Cloud Data

- Introduction to LiDAR and point cloud technologies
- Understanding LAS and LAZ file formats
- Loading point cloud data into QGIS
- Visualizing and exploring 3D datasets

5. Working with Esri Data Formats

- Understanding the Esri ecosystem
- Importing Shapefiles into QGIS
- Working with File Geodatabases (GDB)
- Data migration and interoperability between ArcGIS and QGIS

6. Building an Integrated GIS Project

Participants will work on a complete practical GIS project using multiple real-world datasets. The project will demonstrate how to combine GPS measurements, CAD drawings, point cloud data, raster imagery, and Esri datasets into a unified QGIS environment for analysis, visualization, and decision-making.

Workshop 4
GIS Automation, Atlas Map Production, Model Designer & Open-Source WebGIS Publishing with QGIS
Duration: 4 Hours
Format: Live Online Interactive Workshop
Maximum Participants: 15
Cost: 80 Euro per Participant
Language: English

Workshop Overview
Modern GIS projects often require the creation of hundreds of maps, repetitive data processing tasks, and the publication of geospatial information on the web. Manual workflows can be time-consuming, error-prone, and difficult to maintain. QGIS offers powerful automation tools that allow GIS professionals to streamline their workflows, automatically generate maps, and publish interactive web mapping applications using open-source technologies.
This hands-on workshop is designed for GIS users, planners, engineers, surveyors, researchers, and decision-makers who would like to improve their productivity through GIS automation and web mapping. Participants will learn how to automate map production using Atlas, build reusable workflows with the QGIS Model Designer, and publish GIS projects as interactive web applications using open-source WebGIS tools.
Through practical exercises and real-world examples, participants will learn how to reduce manual work, improve consistency, and efficiently share geospatial information with colleagues, stakeholders, and the public.

What You Will Learn
1. Introduction to GIS Automation
- Why automate GIS workflows?
- Common repetitive GIS tasks
- Benefits of workflow automation
- Overview of QGIS automation tools

2. Automated Map Production with Atlas
- Introduction to Atlas in QGIS
- Creating map series automatically
- Dynamic map layouts and templates
- Generating maps for multiple features
- Dynamic labels, titles, and legends
- Exporting large numbers of maps to PDF and image formats

3. Building Professional Print Layouts
- Advanced Layout Manager techniques
- Dynamic text and expressions
- Custom legends and map elements
- Multi-page reports and map books
- Best practices for professional map production

4. Workflow Automation with Model Designer

- Introduction to Processing Framework
- Understanding Model Designer
- Creating reusable GIS workflows
- Automating geoprocessing tasks
- Batch processing multiple datasets
- Building custom GIS tools without programming

5. Advanced Data Processing Automation

- Automating data cleaning workflows
- Automated spatial analysis
- Batch reprojection and format conversion
- Creating repeatable GIS processes
- Managing large datasets efficiently

6. Introduction to Open-Source WebGIS

- Overview of WebGIS technologies
- Understanding web mapping architectures
- Introduction to QGIS Server
- Introduction to WebGIS Plugin in QGIS
- Publishing GIS services

7. Publishing Interactive Web Maps

- Creating web-ready GIS projects
- Publishing layers and services
- Using QGIS Web Client
- Introduction to Leaflet and OpenLayers
- Sharing maps with stakeholders and the public
- Managing web map updates

8. Building Your First Automated GIS Workflow

Participants will work on a complete practical GIS project that combines automated map production, workflow automation, and WebGIS publishing. The project will demonstrate how to generate map series using Atlas, automate processing tasks with Model Designer, and publish the final results as an interactive web map.

Workshop Instructor

Hamidreza Ostadabbas

Hamidreza Ostadabbas is the Head of Geoinformation at die STEG Stadtentwicklung GmbH, Lecturer at Hochschule für Technik Stuttgart (HFT Stuttgart), OSGeo Charter Member, and Deputy Young Surveyors' Representative at CLGE (Council of European Geodetic Surveyors).

He specializes in open-source GIS, QGIS, PostGIS, WebGIS development, GeoAI, and smart city solutions. With extensive experience in urban planning and geospatial technologies, he has delivered workshops and presentations at international conferences and training events, including FOSS4G, GeoPython, Intergeo, and CLGE activities.

His mission is to promote open-source geospatial technologies and support professionals, students, and organizations in leveraging GIS for better decision-making and sustainable development.