GIS – OPEN AND (UN)SIMPLE FOR SMALL UTILITY COMPANIES

Infraplace Kostas Gružas

2023 June 9th

BALTIC GEOSPATIAL INFORMATION TECHNOLOGY CONFERENCE

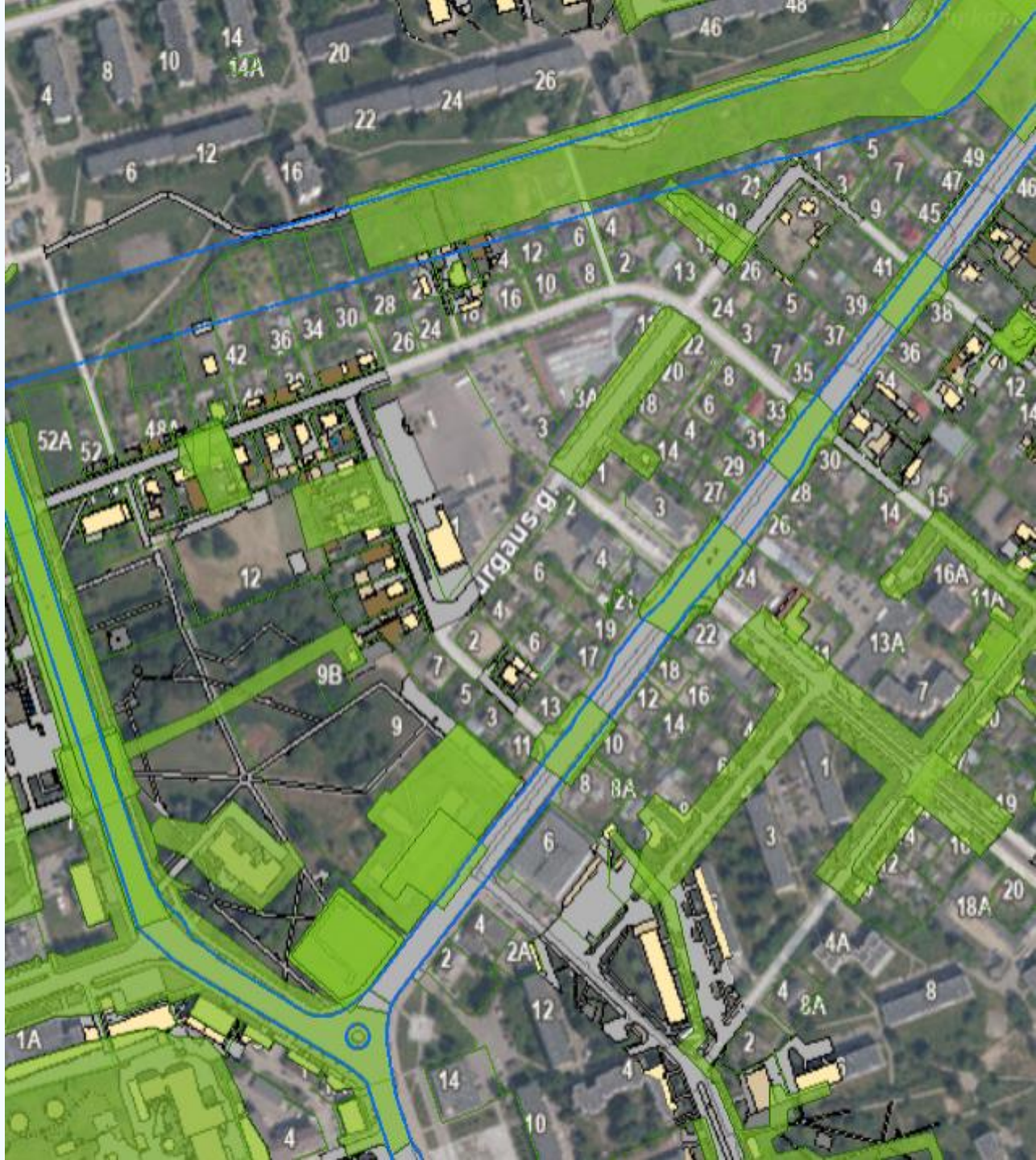
InfraPlace

For who and why?

THE NEED AND ISSUES

Topography and engineering infrastructure information system (TIIIS)

According to the Law on Geodesy and Cartography of the Republic of Lithuania, companies managing engineering networks are required to submit data on network objects to the (TIIIS).



The spatial data provided to the TIIIS must comply with the structure of the TEDR dataset

36

LAYERS

103

DIFFERENT ATTRIBUTE FIELDS

40

CLASSIFIERS

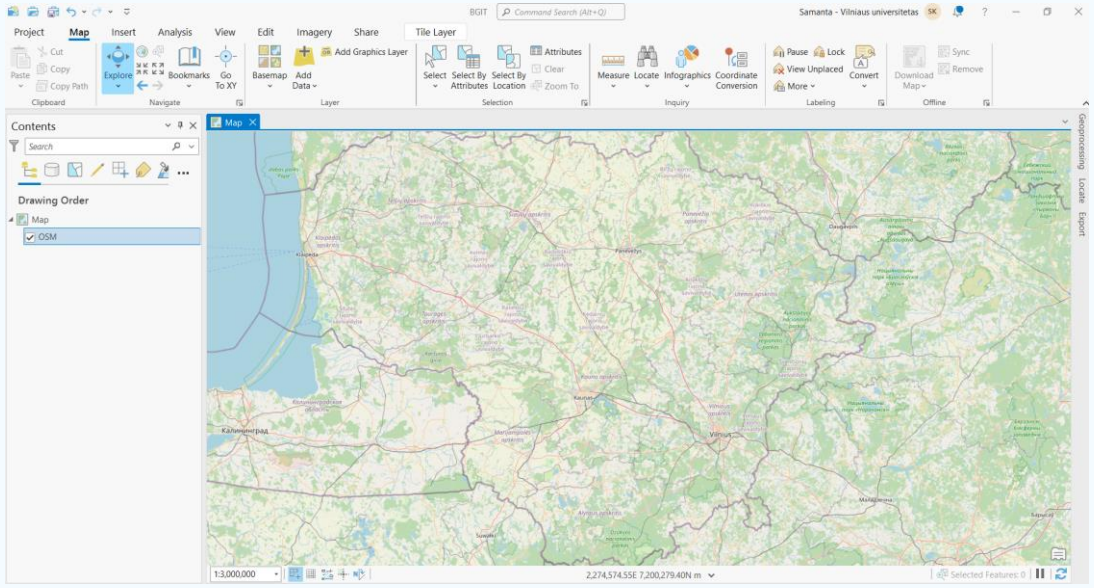
For most small utilities, this is new, unfamiliar and challenging

Where to start?

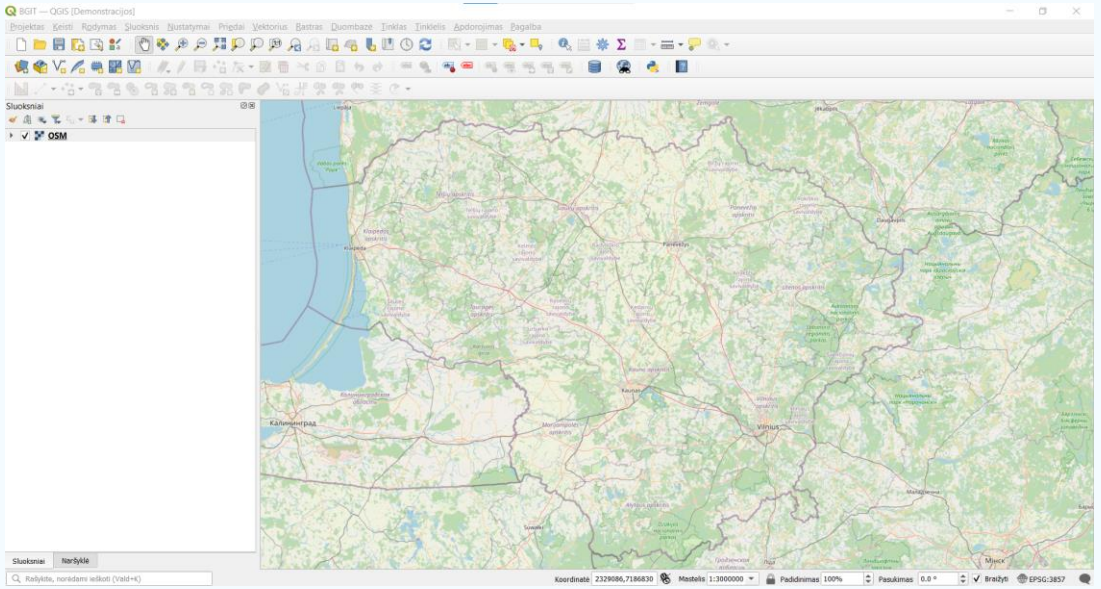
CHOOSE THE SOFTWARE

Evaluate and choose the most appropriate way to manage and administer spatial data (I)

COMMERCIAL GIS SOFTWARE



OPEN-OURCE GIS SOFTWARE



Evaluate and choose the most appropriate way to manage and administer spatial data (II)

COMMERCIAL GIS SOFTWARE

- New and complicated
- Requires time and effort to learn how to use the software
- **Paid**

OPEN-SOURCE GIS SOFTWARE

- New and complicated
- Requires time and effort to learn how to use the software
- **Unpaid**

Guess which type of GIS software our solution includes

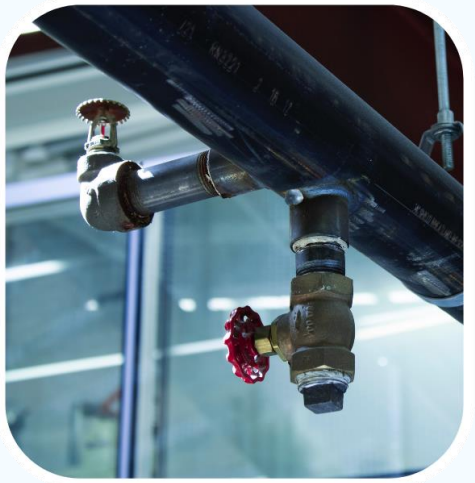
WHO WE ARE AND WHAT OUR SOLUTION IS

InfraPlace

GIS solutions for organisations managing utility networks and their spatial data

- We started developing solutions in July 2022
- Our Customers now working independently with open-source GIS software
- A team made up of lecturers and students



Our solution for small utility companies

<3 EMPLOYEES

From data management to data transfer to external information systems.

Data view maps

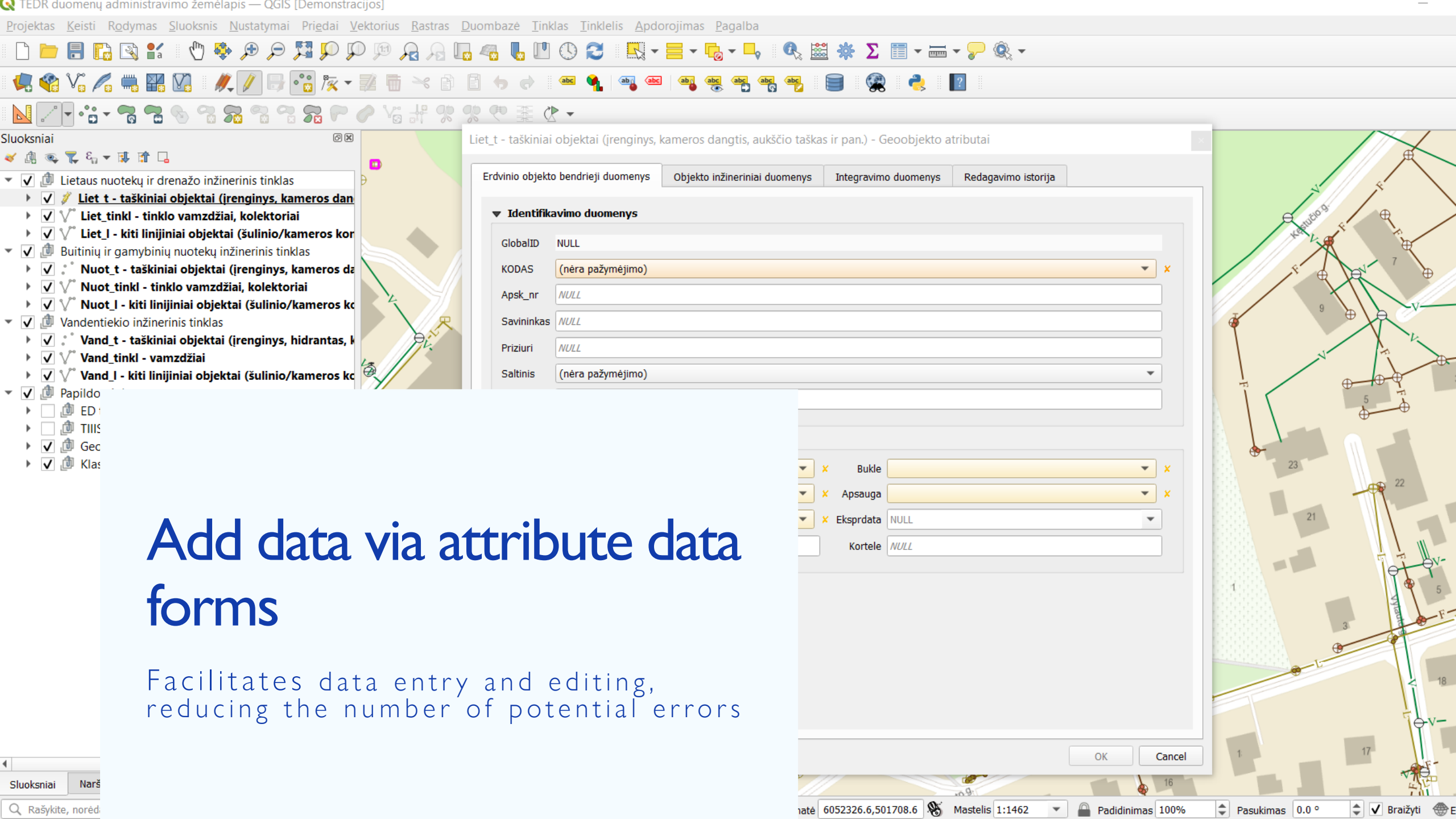
Data editing forms

Specialised classifiers

Filing automation

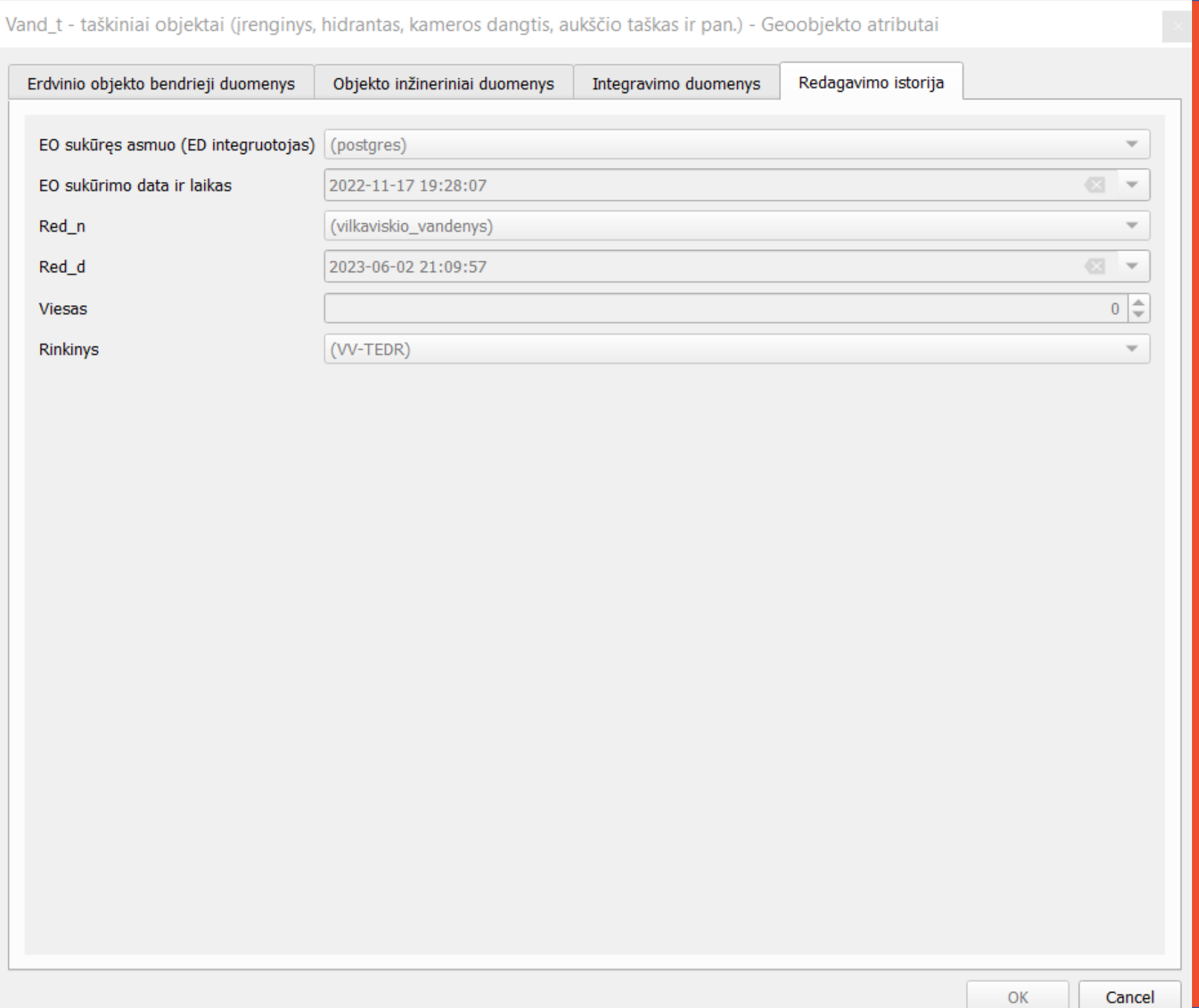
Tools for submitting data to the TIIIS

Extract forms



Add data via attribute data forms

Facilitates data entry and editing, reducing the number of potential errors



Automatic data filling

Facilitates data management. Reducing the number of potential errors

Triggers

Flexibility and implementation of ideas

```
after insert on "Vand_t"
begin

update "Vand_t"
set
"Nauj_n" = (select username from sys_users order by id limit 1),
"Nauj_d" = strftime('%Y-%m-%dT%H:%M:%S',DATETIME('now', 'localtime')),
"Red_n" = (select username from sys_users order by id limit 1),
"Red_d" = strftime('%Y-%m-%dT%H:%M:%S',DATETIME('now', 'localtime')),
"GlobalID" = upper('{' || hex(randomblob(4)) || '-' || hex(randomblob(2)) || '-4' || substr(hex(randomblob(2)),2) || '-' || substr('89ab',abs(random()) % 4 + 1, 1) ||
substr(hex(randomblob(2)),2) || '-' || hex(randomblob(6)) || '}')
where
new."fid" == "fid";

end
```

tedr_q_log_update_vand_t (delete)

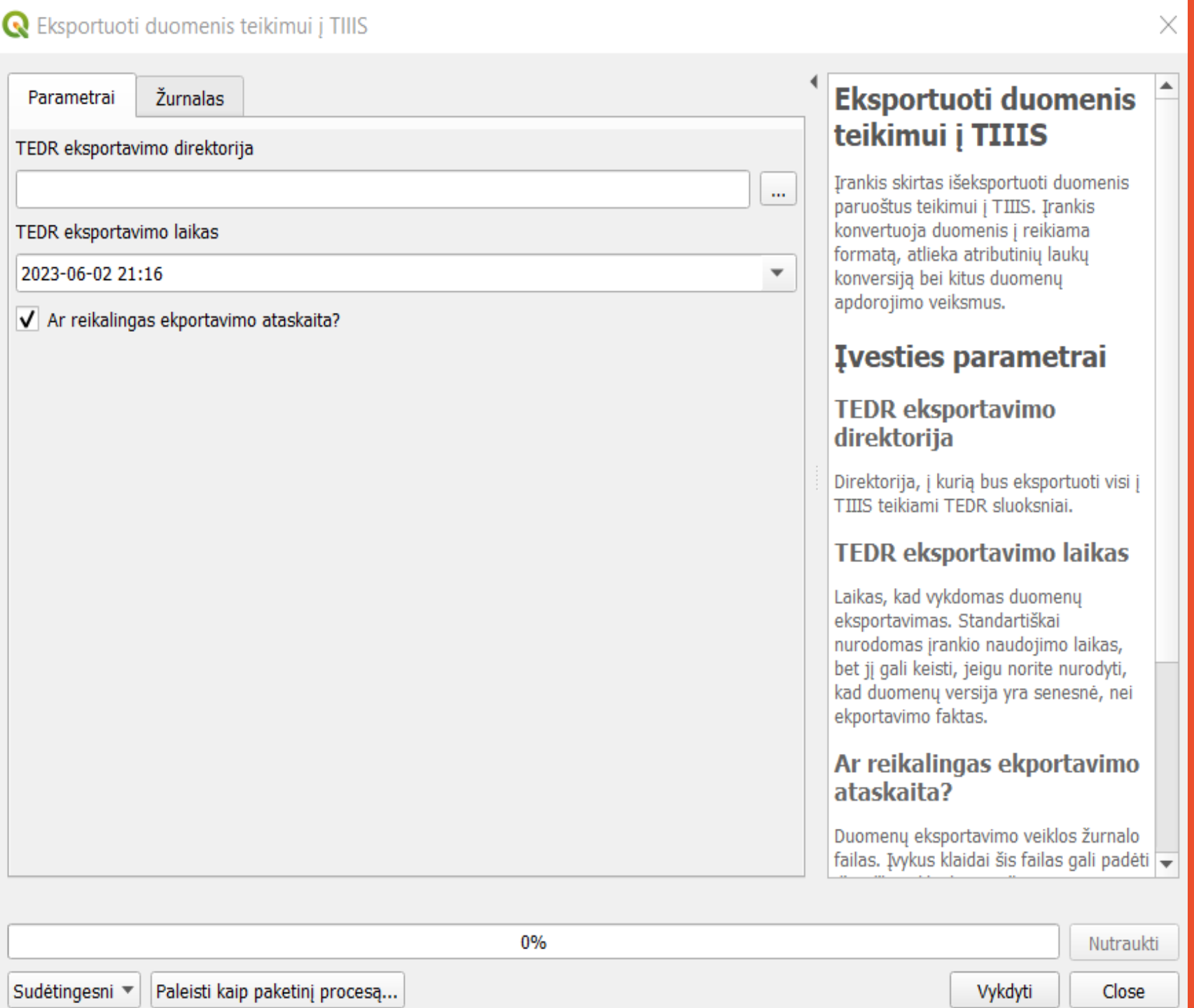
```
CREATE TRIGGER "tedr_q_log_update_vand_t"
after update on "Vand_t"
for each row
when new.Red_d > old.Red_d or old.Red_d is null
begin

update "Vand_t"
```

```
)),

altime'));
```

```
rtree_Vand_t_  WHEN (new."geom" NOT NULL AND NOT ST_IsEmpty(NEW."geom")) BEGIN INSERT OR REPLACE INTO
(NEW."geom"),ST_MinY(NEW."geom"), ST_MaxY(NEW."geom")); END
rtree_Vand_t_  " ON "Vand_t" WHEN OLD."fid" = NEW."fid" AND (NEW."geom" NOTNULL AND NOT
_geom" VALUES (NEW."fid",ST_MinX(NEW."geom"), ST_MaxX(NEW."geom"),ST_MinY(NEW."geom"),
rtree_Vand_t_  " ON "Vand_t" WHEN OLD."fid" = NEW."fid" AND (NEW."geom" ISNULL OR ST_IsEmpty(NEW."geom"))
rtree_Vand_t_  _t" WHEN OLD."fid" != NEW."fid" AND (NEW."geom" NOTNULL AND NOT ST_IsEmpty(NEW."geom"))
OR REPLACE INTO "rtree_Vand_t_geom" VALUES (NEW."fid",ST_MinX(NEW."geom"),
END
rtree_Vand_t_  _t" WHEN OLD."fid" != NEW."fid" AND (NEW."geom" ISNULL OR ST_IsEmpty(NEW."geom")) BEGIN
D
rtree_Vand_t_  WHEN old."geom" NOT NULL BEGIN DELETE FROM "rtree_Vand_t_geom" WHERE id = OLD."fid"; END
trigger_insert_  "Vand_t" BEGIN UPDATE gpkg_ogr_contents SET feature_count = feature_count + 1 WHERE
```



Tool for uploading data to TIIIS

A user-friendly tool

All in one file storage

Map projects

+

TEDR dataset

+

Tools for uploading data to TIIIS

+

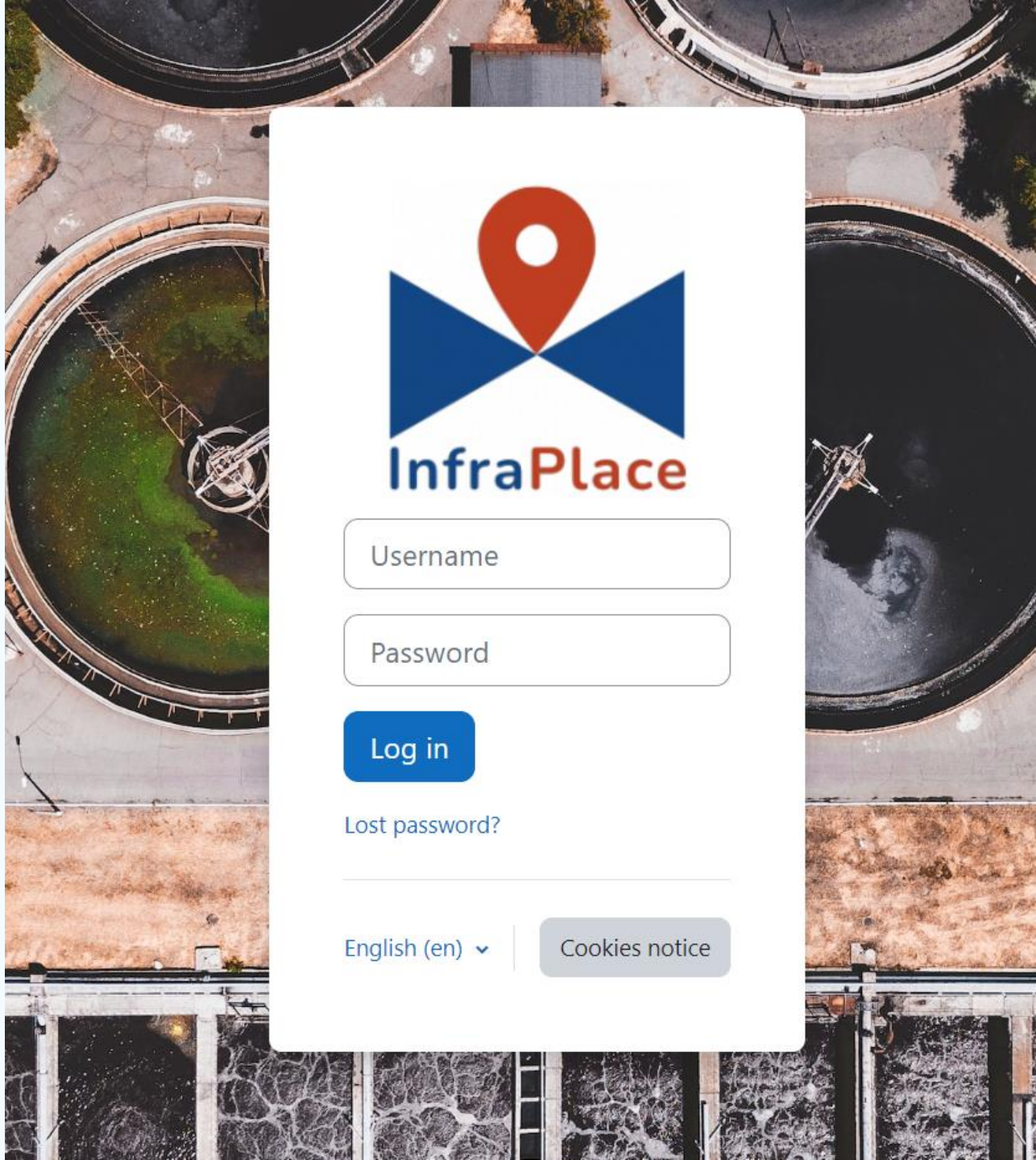
Additional data to facilitate data input

=

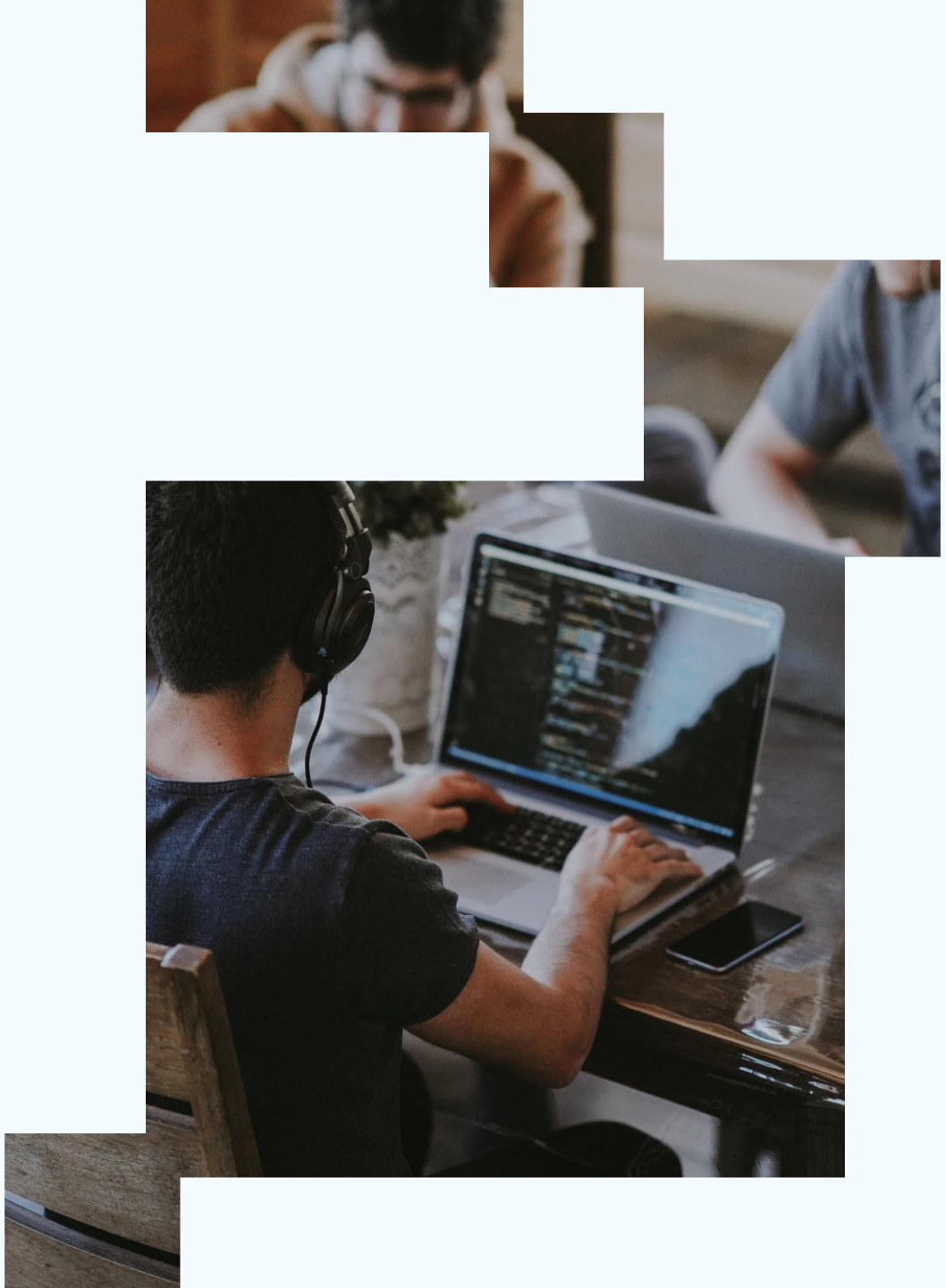
GeoPackage database file < 30 MB

Training

- A constantly updated archive of video lessons
- We create lessons based on users' questions
- Join when and where you want
- Personal consultations



We have created an environment where (un)simple can be simple



Challenges and issues

GIS, open-source are new definitions for small utilities companies

We are young people who work with software that is not well known in their communities

At university, we learn to be employees rather than creators

Not enough focus on open-source GIS, product development and marketing courses at university

KOSTAS GRUŽAS

https://infraplace.lt/

kostas.g@infraplace.lt

Thanks for your attention

Baltic GIT

2023 June 9th

BALTIC GEOSPATIAL INFORMATION TECHNOLOGY CONFERENCE

InfraPlace