



VGI CHALLENGE

INNOVATING PUBLIC TRANSPORT IN AND AROUND INGOLSTADT



VGI newMIND
MOBILITÄT
INNOVATION
NACHHALTIGKEIT
DIGITALISIERUNG



Technische Hochschule
Ingolstadt



KATHOLISCHE UNIVERSITÄT
EICHSTÄTT-INGOLSTADT



Welcome to the VGI Challenge

**Thank you for joining us at the VGI CHALLENGE.
We're very excited about the solutions and ideas you
and your team will present us!**

**You have already chosen your Team and your Challenge at the Kick-Off Event.
The following slides will include all the information you need to successfully
prepare your pitch.**

Good Luck!



You have chosen TOPIC 1: VISUALISATION OF REAL-TIME DATA ON A LIVE MAP



TOPIC 1: VISUALISATION OF REAL-TIME DATA ON A LIVE MAP

Description:

VGI generates planned data for routes and trips, which are transmitted to both the central control system and 400 buses. The buses send real-time data back, which is compared with the planned data in the control system. These planned vs. actual comparisons are forwarded to information systems like the VGI app and DB Navigator via the VDV454 interface. Passenger counting sensors (IRMA Matrix) record the number of passengers and also transmit this data to the central system. Since this year, VGI has been using the SIRI-VM (European standard) interface for vehicle monitoring.

Objective:

The challenge aims to use the SIRI-VM interface to create an interactive map that displays buses based on their geodata.

Requirements:

No server/client system needs to be set up. A SIRI feed should display the geodata of a vehicle on the map.



TOPIC 1:

VISUALISATION OF REAL-TIME DATA ON A LIVE MAP

Data (SIRI):

The following information should be displayed:

location: <VehicleLocation>
line: <PublishedLineName>
destination: <DestinationName>
delay: <Delay>
Occupation: <init-o:PassengersNumber>,
<init-o:OccupancyPercentage>

Additionally, bus stops should be displayed on the map, allowing users to interactively view the buses departing from those stops, identified using the <OnwardCall> attribute.

<OnwardCall>
 <StopPointRef>INVGIN-Hkers 1</StopPointRef>
 <VisitNumber>25</VisitNumber>
 <StopPointName>Hackerstraße</StopPointName>
 <AimedArrivalTime>2024-04-10T16:19:00+02:00</AimedArrivalTime>
 <AimedDepartureTime>2024-04-10T16:19:00+02:00</AimedDepartureTime>

File of data transmission as a detailed XML file



TOPIC 1: VISUALISATION OF REAL-TIME DATA ON A LIVE MAP

Stop data can be extracted from the GTFS data. An import function for the data would be desirable.

The file stops.txt contains stop data.

The attribute stop_id (V0000361) represents the stop „Technische Hochschule“ in the example. The attributes stop_lat and stop_lon contain the geographic coordinates of the stops. The individual stop poles at each stop can be disregarded.



TOPIC 1: VISUALISATION OF REAL-TIME DATA ON A LIVE MAP

Required files for your challenge:

GTFS-Data and SIRI VM – both will be in the mail, you have received.

Interface description:

GTFS-Data = <https://developers.google.com/transit/gtfs?hl=de>

SIRI VM = <https://enturas.atlassian.net/wiki/spaces/PUBLIC/pages/637370373/General+information+SIRI#GeneralinformationSIRI-NaturalLanguageStringStructure>

Target comparison:

Map simulation = [VGI - Verkehrsverbund Großraum Ingolstadt](#)

(map settings - parameter selection - stop point/busses)



Contact and Data

You will receive the needed data for your challenge along with this presentation in the email. If there are any questions during the workweek regarding your challenge feel free to contact:

Thomas Gillert (VGI)
Thomas.gillert@vgi.de

Kevin Stolpe (VGI)
kevin.stolpe@vgi.de



Workweek

You and your team will be able to work on your challenge starting from the Kick-Off Event until the following Friday, 15. November.

During this time, you can work from wherever you want - but also rooms at the THI will be available to you:

When	Where
09.11.	J201
10.11.	J201
11.11.	D315
12.11.	G117
13.11.	E001
14.11. until 11:25	E001
14.11. from 11:35 until rest of the day	K010

The rooms will be open during the normal THI working hours. Some small refreshments and snacks will be provided. Please consider that there is limited space.



Your Pitch

You will present your solution with a quick pitch at the closing event, 15. November.
Please prepare a Powerpoint presentation that showcases your work –
It can be as creative or detailed as you want.
Just make sure that you can deliver your pitch in 3 minutes.

Every group will have a designated time slot on the day of the event. There will be a small time buffer between pitches for connecting your PC with our equipment and get everything ready. Make sure you have a HDMI compatible Laptop.
We will mail you the exact order of the teams pitches the day before the event.



Jury and the Selection Process

After everyone got the chance to present their pitches, our jury will start their selection process and decides who wins the VGI Challenge.

They will consider the following attributes in your pitches:

Innovation

How creative and new is the idea? Do you have a different angle than everyone else?

Complexity

How complex is the solution? How many details were you able to consider?

Usability

Will the VGI be able to implement the solution? How doable is it?

Presentation

How good was the overall pitch?



The Prices

The total Price Money of 10.000€ will be divided like this:



Second Place
3.000€



First Place
5.000€



Third Place
2.000€

The prices will be split evenly and fairly between all participating team members.



Have fun and good luck!
We will see each other again:
15.11.24 16:00–20:00
at Reimanns, Campus THI

If you have any other questions, feel free to contact us:

Melissa Schultze (AININ)

Melissa.Schultze@ainin.de