Unit 3: Technology usage as a solution

3.2. Digital Infrastructure and Geo-Informatics

Duration: 45 minutes
Teaching topic: Exploring Digital Infrastructure and GIS Tools for the Creation of Smart and Sustainable Cities

- **Sub-topic 1**: How do Inefficient Public Transport Systems Hinder the Development of Smart Public Transport?
- **Sub-topic 2:** Tools and Examples of Good Practices in Public Transport Optimization

Learning Aims:

- To inform students about the ineffectiveness of the current transport system and present the possibilities of GIS systems in terms of smart urban planning and public transport optimization
- To be informed about effective practices and tools which can be adopted for the promotion of smart public transport infrastructure

Methodology:

- Assessment Quiz on learners' satisfaction with their regional public transport system (5 minutes)
- Canva Presentation (25 minutes)
- Interactive Educational Game/quiz (15 minutes) ???

Sub-Topic One: How Do Inefficient Public Transport Systems Hinder the Development of Smart Public Transport

Duration: 15 minutes
Content: This section will focus on educating learners about the inefficiency of the current public transport system in many urban areas and on promoting the use of technology, more specifically geoinformatics, as a solution to the problem of unsustainable and, many times, inaccessible urban public transport.

Methodology

- Assessment Quiz on learners' satisfaction with their regional public transport system (5 minutes)
- Watch part of the presentation (slides 1-11) (10 minutes)

Material

- PowerPoint Presentation: Presentation 3.2. GreenCities Digital Infrastructure and Geo-Informatics
- Internet Connection
- Assessment Quiz (Learndash)

<u>Sub-Topic Two:</u> Tools and Examples of Good Practices in Public Transport Optimization

<u>Duration:</u> 30 minutes

<u>Content:</u> This section presents and suggests examples of good practices in public transport optimization. It also offers a sneak peek at a number of key tools which can be employed by city planners and other stakeholders for the transformation of public transport. A total of 6 tools are presented, all of which incorporate the GIS technology. This topic concludes with a link between smart city planning and sustainability, which is one of the ultimate goals of the Green Cities project.

<u>Methodology</u>

- Watch the rest of the presentation (slides 12-23) + video included in the presentation (15 minutes)
- Interactive Educational Game/quiz (15 minutes) ???

<u>Material</u>

- Powerpoint Presentation Presentation 3.2. GreenCities Digital Infrastructure and Geo-Informatics
- Internet Connection
- Interactive Educational Game/quiz

<u>Learndash Activity</u>

<u>Assessment (Survey)</u>

***Quiz Title**:*	*Your Regional Public Transport System*
Add a background image (optional)	Background Image Canva
The above statement is less true [1,2,3,4,5] more true	

1. How strongly do you agree that public means of transport in your city are safe and well-maintained?
   { [Strongly disagree] [Somewhat disagree] [Neither agree nor disagree] [somewhat agree] [Strongly agree] }

2. Overall, public means of transport in your city offer a contactless payment option.
   { [never] [rarely] [sometimes] [often] [always] }

3. Overall, public means of transport in your city are on time.
   { [never] [rarely] [sometimes] [often] [always] }

4. Overall, a lot of times riders of public transport in your city experience longer travel time due to traffic congestion and/or absence of bus lanes.
   Less true { [1] [2] [3] [4] [5] } more true

5. Overall, how satisfied are you with the facilities provided by your regional public transport system?
   Less true { [1] [2] [3] [4] [5] } more true

6. Overall, you consider public means of transport in your city environmentally friendly.
   { [Strongly disagree] [Somewhat disagree] [Neither agree nor disagree] [somewhat agree] [Strongly agree] }