

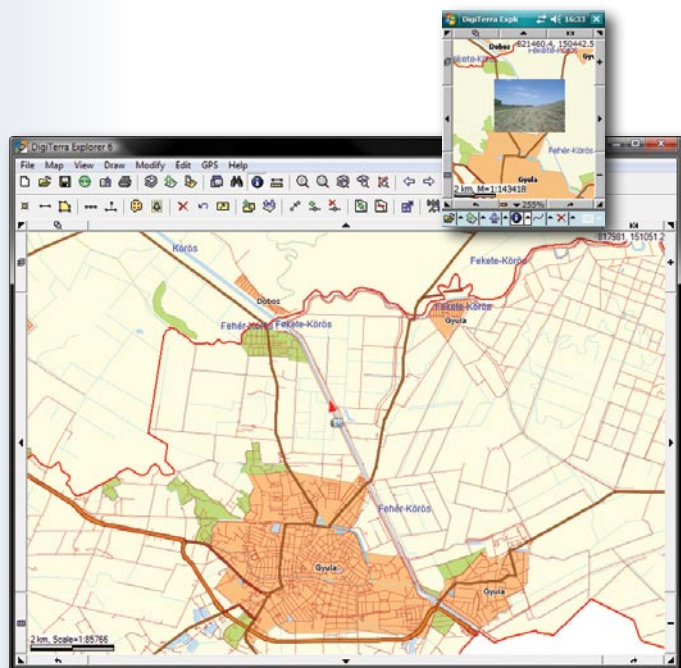


*DigiTerra Explorer, the link between maps and photos*  
**You do not need to recall,  
where you have taken your last photo!**

More and more industries use digital photos, since it is a tool to record and document condition and location of objects, buildings, landscape etc. Just think of facility management, environment monitoring, road management, and you will understand how crucial it is to take images along with geographical position.

Digital photos contain a huge amount of information, still without maps you need a lot of images to represent the reality. It is obvious to make use of the **synergy between maps and photos: DigiTerra Explorer** is able to link them.

As a result, you can multiply information value of both maps and photos and process them in a GIS database.



**How to define the geographical position of a photo?**

**1. GEO-imaging solution:** by using a special camera and a GPS receiver, you can save the position of the photo in the meta data of the image EXIF). DigiTerra Explorer displays the images on the digital map in the correct position.



**2. Image-attribute solution:** DigiTerra Explorer records the GPS position that will be complemented by the photo attached as attribute data. In this case, the image itself does not contain geographical position.



Both solutions have their pros and cons, as summarized in the following table

	<b>Pro</b>	<b>Con</b>
<b>1. GEO-imaging solution</b>	<ul style="list-style-type: none"> <li>• Simple workflow</li> <li>• When using an electronic compass, direction of photo capturing will be displayed</li> <li>• Generally high quality images</li> </ul>	<ul style="list-style-type: none"> <li>• Special camera needed</li> <li>• Two separate devices needed unless you use built-in GPS-receiver images</li> </ul>
<b>2. Image-attribute solution</b>	<ul style="list-style-type: none"> <li>• No special camera needed</li> <li>• All functions in one device when using a camera built in a PDA</li> </ul>	<ul style="list-style-type: none"> <li>• Lower image quality when using built-in camera</li> <li>• More complex workflow</li> </ul>

### 1. GEO-imaging solution

For this solution you will need a special camera (either stand-alone or built in a GPS receiver) that is able to take geotagged pictures: this means it records GPS coordinates and places them in the meta data (EXIF) of the image files. Please note that most of the cameras built in a GPS receiver are not able to take geotagged pictures, but for example Magellan MobileMapper 6 is an exception. After loading the images into DigiTerra Explorer, it will display them on the digital map in the correct position.

DigiTerra Explorer supports all cameras that are able to record GPS coordinates in the header (EXIF) of the image file. Such cameras are for example the high-end Nikon D3 and D300, the rugged Ricoh Caplio 500SE, or the inexpensive Nikon P6000. Also a 2 in 1 device, Magellan MobileMapper 6 GPS receiver with built-in camera offers this feature.

Due to its rugged house, Ricoh Caplio 500 SE and due to its favourable pricing, Nikon P6000 could be a reasonable choice. Let us summarize their main features.

#### Ricoh Caplio 500SE rugged, GPS-enabled digital camera

- Precise external GPS receiver can be connected via Bluetooth (for example: Magellan MobileMapper CX, Trimble GeoXT)
- Images can be sent via Bluetooth or WIFI connection to the GPS receiver
- Rugged, robust design
- Complementing with the new SE-2 g GPS module, you can record GPS position without connecting a second device
- Complementing with the new SE-2c module, you can record GPS position and transform the device to an electronic compass. As a result, the direction of photo capturing will be displayed by DigiTerra Explorer, marked with an arrow.

#### Nikon Coolpix P6000 with built-in GPS receiver

- Bridge camera with built-in GPS receiver
- Excellent image quality

Reseller

### 2. Image-attribute solution

When you choose this solution, the image itself does not contain geographical position. In contrary, DigiTerra Explorer records the GPS position that will be complemented by the photo attached as attribute data. For this reason, you can use any camera, although from practical point of view it is worth considering a GPS receiver with built-in camera (Trimble Juno, Topcon GMS-2 for example). When choosing these devices, you can take pictures and do the mobile mapping and data collection jobs with a single equipment.

Main features of the image-attribute solution:

- Images will be attached to GPS positions, as attributes to point, line or area objects.
- Attached images can be queried and changed any time
- When using a GPS receiver with built-in camera, you can attach the image right after the measurement directly on the data collection sheet (or you can do this later)
- Relative path of the image will be recorded on the data sheet, while images will be saved next to the relevant map layer

#### Application area

1. Facility management
2. Environment monitoring
3. Geology
4. Road maintenance



### Contact

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