



Tesmec on field pipe tracking Method

Tesmec is proud to introduce **EPT (Easy Pipe Tracking)**, the high precision Android App for Tesmec **GPR Explorer 2.0**.

All companies involved in trenching or in excavation operations for laying pipes or cables need to be sure about the position

and depth of the existing underground infrastructure before digging.

Nowadays, there are 2 ways to execute an utility detection survey by GPR equipment, in conformity with International Standards (BSI PAS 128:2014 – UNI/PDR 26.1:2017):

DIRECT MARKING ON SITE

- **Low** production rate (< 300 lm/day)
- **No** record references for the future
- **Low** accuracy with high density of underground utilities
- **No** drawings, only Road Marks
- **Needs** Topo Survey Team for record

ACQUISITION ON SITE + POST PROCESSING

- **High** acquisition rate with GPS in RTK configuration (> 2000 lm/day)
- **High** location accuracy (± 2 cm)
- **3D dwg** drawings in real coordinates
- **Record** references for the future



The benefit of the direct marking on site is the immediate result on the road, easy to read by trencher/digger operators. Anyway, its short-term duration, low accuracy level in job site crowded of utilities such as high-density populated areas, and the absence of record reference for the future, do not make it the safest and smartest solution.

The **EPT** application allows users to complete the cycle of direct marking on site after the **post-processing** phase with the highest accuracy of the results. All outputs are

stored in one “Cloud Database” and can be downloaded 24/7.

The user-friendly interface of the EPT App, allows to easily transfer the 3D dwg output results on the road, with ± 2 cm accuracy (in RTK mode), without any surveyor team.

The EPT can also be used to pick-point manholes, sidewalks and a long list of items on site, in order to create a “base map” for the GPR data post-processing, with ± 2 cm accuracy (in RTK mode) without using expensive topo-survey equipment.

Workflow resume



1. LIGHT TOPO-SURVEY

DEFINED ELEMENTS LIBRARY
+ NO NEED FOR SKILLED PEOPLE



RESULT: dwg drawing with base topography



2. GPR DATA ACQUISITION

+ FULL AREA COVERAGE
+ REDUCED TIME WITH GPS+RTK
+ ALL GEOREFERENCED DATA
+ NO NEED FOR SKILLED PEOPLE
+ ACQUISITION RATE > 2000 lm/day

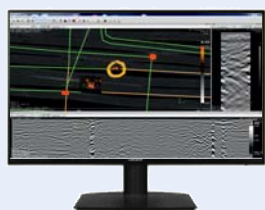


RESULT: GPR georeferenced data for post-processing

Cloud Database

3. GPR DATA PROCESSING AND MERGE

3D UTILITY DATA OUTPUT
+ REDUCED TIME FOR DATA PROCESSING
+ REDUCED MISSED OBJECT
+ MAXIMUM LEVEL OF ACCURACY
+ PROCESSING RATE >2000 lm/day

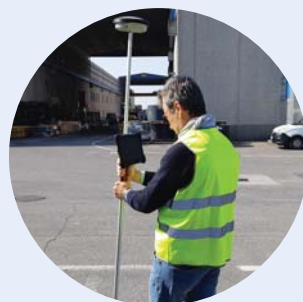


RESULT: dwg drawing of utilities and pipes + topo features of the site



4. FAST UTILITY MARKING ON SITE

+ DIRECT DOWNLOAD ON SITE FROM APPLICATION
+ REMOTE OUTPUT TRANSFER IN HIGH ACCURACY
+ REMOTE MONITORING OF PERFORMED ACTIVITIES
+ EASY MARKING APPLICATION ON TABLET



EPT TECHNICAL FEATURES

- Tablet App
- User-friendly menu
- Libraries with defined objects/items
- "Picture" mode on site
- Automated drive to the pipe/utility position
- Indication accuracy (± 2 cm in RTK mode)
- GPS fast connection via Bluetooth*
- Google Maps* interface



* Bluetooth and Google Maps are Registered Trademarks.