# Tunnel Software
# Feature Comparison

| PROJECT DEFINITION | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Horizontal alignment definition | ■ | ■ | ■ |
| Vertical alignment definition | ■ | ■ | ■ |
| Superelevation definition | ■ | ■ | ■ |
| Template definition | ■ | ■ | ■ |
| Import alignments in LandXML format | ■ | ■ | ■ |
| Import alignments in InRoads format | ■ | ■ | ■ |
| Import alignments in MxRoads format | ■ | ■ | ■ |
| Support of spiral and self-crossing alignments | ■ | ■ | ■ |

| POINTS | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Import points in ASCII format | ■ | ■ | ■ |
| Import points in GSI format | | | ■ |
| Import points in Faro FLS format | ■ | ■ | |
| Import points in Leica PTS/PTX format | ■ | ■ | |
| Import points in Leica HDS 4500/6000 FZS format | ■ | ■ | |
| Import points in Leica Nova MS-50 format | ■ | ■ | |
| Import points in Topcon CLR/CL3 format | ■ | ■ | |
| Import points in LAS/LAZ format | ■ | ■ | |
| Import percentage of points | ■ | ■ | |
| Export points to ASCII format | ■ | ■ | |
| Export points to PTS format | ■ | ■ | |
| Export percentage of points | ■ | ■ | |
| Filter by chainage | ■ | ■ | |
| Filter by alignment offset | ■ | ■ | |
| Filter by alignment elevation difference | ■ | ■ | |
| Filter by distance to template | ■ | ■ | |
| Filter by angle | ■ | ■ | |
| Manual filter | ■ | ■ | |
| Symbology by real color | ■ | ■ | |
| Symbology by intensity | ■ | ■ | |
| Symbology by distance to project template | ■ | ■ | |
| Symbology by elevation difference | ■ | ■ | |
| Symbology by in/out of template | ■ | ■ | |
| Point analysis considering elevation | ■ | | ■ |

| VISUALIZATION | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Plan view | ■ | ■ | ■ |
| Front view | ■ | ■ | ■ |
| Left/right view | ■ | ■ | ■ |
| Orthogonal view | ■ | ■ | ■ |
| Perspective view | ■ | ■ | ■ |
| View along aligment | ■ | ■ | ■ |
| Zoom in/out | ■ | ■ | ■ |
| Zoom extension | ■ | ■ | ■ |
| Zoom window | ■ | ■ | ■ |
| Pan | ■ | ■ | ■ |
| Orbit | ■ | ■ | ■ |

| TEMPLATES | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Numerical definition by coordinates | ■ | ■ | |
| Import templates in DXF format | ■ | ■ | ■ |
| Import templates in TcpTunnel format | ■ | ■ | ■ |
| Import templates in TPE format | ■ | ■ | ■ |
| Import templates from cross sections | ■ | ■ | |
| Template insertion point control | ■ | ■ | ■ |
| Destroy height | ■ | ■ | |

| | | | |
|---|---|---|---|
| Superelevation behaviour configuration | ■ | ■ | ■ |
| Support for multiple layers | ■ | ■ | ■ |
| Control points | ■ | ■ | |
| Fixed, variable and superelevated vectors | ■ | ■ | |
| Template interpolation | ■ | | ■ |
| Open templates | ■ | | ■ |
| Generation of control points | ■ | ■ | |
| Assign secondary templates | ■ | | |

| CROSS SECTIONS | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Vertical or perpendicular to grade line cross sections | ■ | ■ | ■ |
| Cross sections by regression | ■ | ■ | ■ |
| Cross sections by point cloud | ■ | ■ | |
| Road cross sections | ■ | ■ | |
| Quick profile | ■ | ■ | |
| Vertices filtering | ■ | ■ | ■ |
| Cross sections editor | ■ | ■ | ■ |
| Drawing of cross sections in 2D | ■ | ■ | ■ |
| Drawing of cross sections in 3D | ■ | ■ | ■ |
| Advance/destroy cross sections | ■ | ■ | |
| Export to DXF | ■ | ■ | ■ |
| Hatches in cross sections drawing | ■ | | |
| Export of interior points | ■ | | |
| Export to longitudinal profile | ■ | ■ | |
| Export to cross sections | ■ | ■ | |
| Export 3D vertices | ■ | ■ | ■ |
| Import cross sections | ■ | ■ | |
| Parallel cross sections | ■ | ■ | |
| Open and close cross sections | ■ | ■ | |
| Merge cross sections | ■ | ■ | |

| REPORTS | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Area and volume report | ■ | ■ | ■ |
| Cross sections comparison | ■ | ■ | ■ |
| Deviation report | ■ | ■ | ■ |
| Gauge report | ■ | ■ | |
| Measured points report | | | ■ |
| Cross sections point report | ■ | ■ | |
| Control point report | ■ | ■ | |
| Tolerances report | | | ■ |
| Bolts report | ■ | ■ | |
| Fit circles | ■ | ■ | |

| TOOLS | TcpScancyr Avanced | TcpScancyr Basic | TcpTunnel CAD |
|---|---|---|---|
| Layer management | ■ | | ■ |
| Import drawing in DXF format | ■ | | ■ |
| Drawing of 3D tunnel | ■ | ■ | ■ |
| Drawing of 3D real alignment | ■ | | |
| Drawing of 3D polylines over point cloud | ■ | ■ | ■ |
| Drawing of alignment over point cloud | ■ | | |
| Generation of 3D model | ■ | | ■ |
| Export 3D model to IFC | ■ | | ■ |
| Export contour parallel to grade line | ■ | ■ | |
| Inspection map | ■ | ■ | |
| Orthoimage | ■ | ■ | |
| Tunnel tour | ■ | ■ | ■ |
| Video generation | ■ | ■ | |