



## teleCap™

ProCaptura's data capture system for telecom networks from maps.

• *teleCap™ is a system for capturing telecom networks. The process is semi automatic with automatic OCR functionality. The cables, junction points, distribution points and other entities are all captured. Text is captured using OCR technology and associated with the cable network. The automatic process will be supervised by an operator that at any point can control the results and do corrections. ProCaptura has successfully captured a large number of maps for Telenor, the Norwegian telecom company, and proved significant cost and time savings compared to traditional manual digitizing.*

### Input:

- Scanned raster files (TIFF) of cable schematic drawings, duct and plant maps. Sufficient resolution: min 3 pixels of line width.
- Some or all of the elements: cables with text and pair information, junction points, distribution points and text, main distribution frames and text, manholes, pipes and ducts, tracks, pair termination positions, meta information.
- Data dictionary, e.g. address register, valid cable types and sizes, existing legacy data.
- Original may be gray scale or color.

### Functionality:

- Automatic recognition of junction points, cables, distribution points, pipes and ducts, manholes and tracks.
- Automatic creation of network connectivity.
- Automatic calculation of up/down stream.
- Automatic OCR of raster objects (single alphanumeric characters, symbols).
- Manually split and merge raster objects.
- Training environment for OCR of raster objects.
- Automatic grouping of single characters to text strings.
- Training environment for grouping of single characters to text strings.
- Automatic assignment of recognized text to distribution points and cables.

- Interactive control and correction of OCR results. Secures all objects are handled.
- All automatic processes under operator supervision.
- Operator controlled parameters for all automatic processes, tailoring a production line for a specific map series.
- Automatic validation and consistency control with guidance to problem areas. Color coding for visual inspection.

### Output:

- Geographic XY-coordinates, georeferenced or raster coordinates.
- Cables with cable codes, pair information and direction.
- Junction points.
- Distribution points with name, type and address.
- Main distribution point with name, type and address type.
- Pipes, manholes, ducts and tracks.
- Termination equipment and positions.
- Output formats:
  - Shape
  - DXF
  - NIMS exchange format
  - MID/MIF (MapInfo)

### Platform requirements:

- LINUX Redhat 7.3 and 9 (open source)
- PC P4 or similar, +512MRAM, +40Gbyte disc, state-of-the-art graphic card