



### ICS designer overview

#### ICS designer is developed to cover all radio planning needs of:

- Telecom operators
- Broadcasters
- Telecom equipment makers
- System integrators
- Engineering and consultancy firms



### Support of all radio technologies in ICS designer

ICS designer covers all existing radio technologies in a single solution. Technologies supported by ICS designer include:

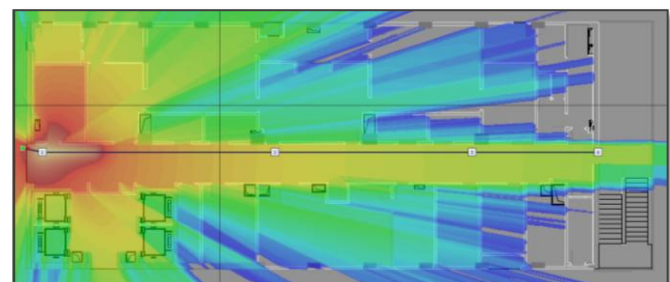
- Broadcast (analogue technologies, DVB-T, DVB-T2, ISDB-T, ISDB-Tb, CMMB, DTMB, T-DMB)
- Mobile technologies (LTE, LTE-Advanced, WiMAX, 3G, 2G, GPRS, EDGE, WCDMA, GSM-R)
- Point to Multipoint (WiMAX, CDMA 450, LMDS, MMDS)
- Microwave links, PDH, SDH, IP-radios
- Aeronautical systems
- PMR and trunked radio systems (TETRA, TETRAPOL, APCO-25, MPT 1327)
- Satellite
- Radar



### Main functions of ICS designer

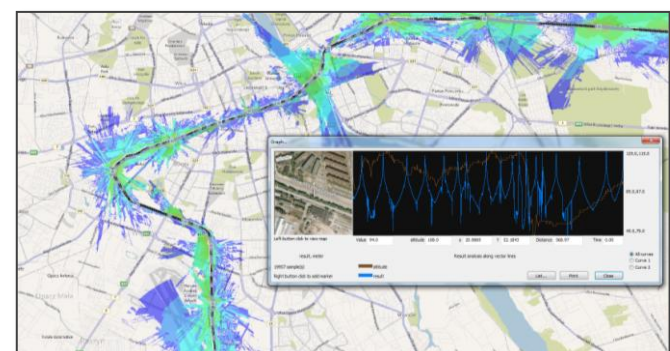
#### Radio planning functions:

- Coverage analysis
- Interference analysis
- Capacity planning
- Automated Frequency planning
- Measurement import/correlation/model tuning
- Traffic/population analysis
- Handover analysis
- Prospective planning
- Network optimization



#### Advanced capabilities:

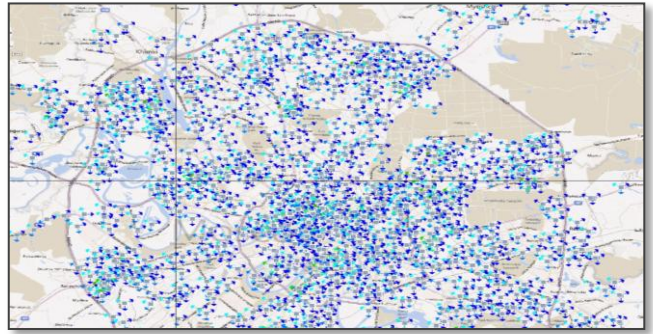
- Co-existence management
- Indoor planning
- Mixed indoor/outdoor calculation
- Wind turbine interference prediction
- Health safety zone calculation



## LTE functions

ICS designer supports advanced LTE functions, both for TDD and FDD:

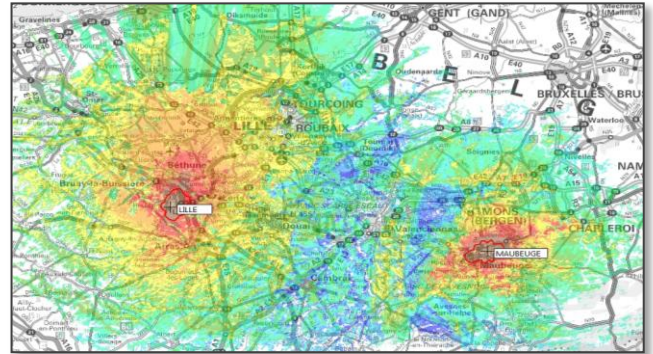
- 3G -> 4G Migration
- LTE network design
- LTE interference analysis
- LTE Throughput map
- LTE KPI (Keys Performance Indicators)
- LTE Optimization



## Broadcast capabilities

ICS designer covers thoroughly the simulation and analysis needs of fixed and mobile broadcast:

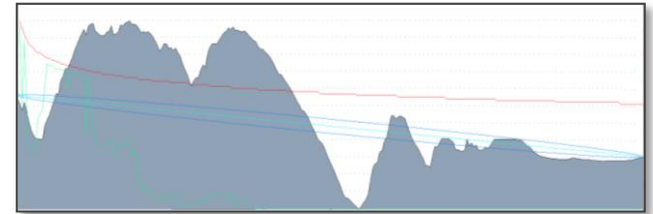
- Migration from an analogue network to a digital network
- MFN or SFN configuration
- All technologies: analog TV and radio, DVB-T, DVB-T2, T-DAB, DVB-H, DMB, MediaFLO™, ISDB-T
- Full compliance with ITU recommendations and Geneva06



## PMR

ICS designer is capable to plan and optimize all types of professional mobile radio network including industrial environments, factories, oil refinery, energy plants, natural reserves, etc.

Advanced radio planning capabilities include indoor, outdoor and mixed indoor/outdoor coverage planning.

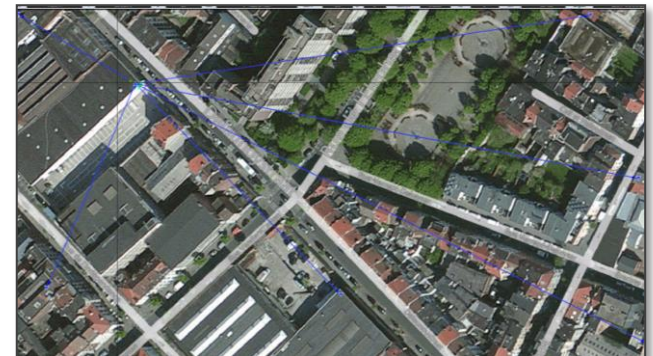


## Microwave links

All links in ICS designer are defined by the technical characteristics of the two terminals. These can be entered manually or by selecting terminal equipment, antennas and feeders from a user-built database.

The microwave features:

- Creation of terrain profile between two stations
- Use of passive repeaters
- Automatic path budget calculations
- Frequency planning
- Interference analysis
- Link optimization functions



The path analysis takes into account multiple ground reflections. ICS designer also considers space diversity and optimizes the installation of a second reception antenna.



## Bing Maps

ICS designer supports Microsoft Bing Maps, providing a high degree of image accuracy, comfort of use and visually pleasing reports and printouts.

The availability of street names and other landmarks helps to:

- Verify the location or address of assets in the field (sites, towers, antennas)
- Verify the type of infrastructure or buildings in the vicinity of a transmitter
- Create or verify user-defined zones for coverage or protection purposes

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