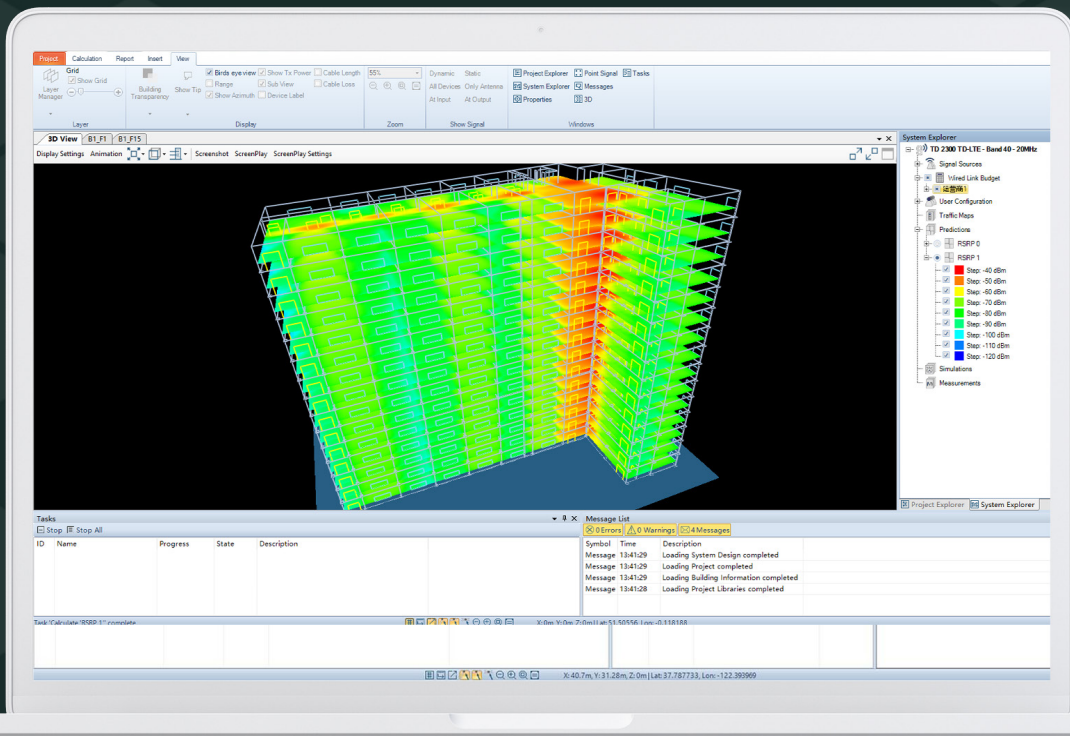


Ranplan In-Building

Advanced indoor wireless network planning and optimisation platform with rapid 3D modelling



What is Ranplan In-Building?

Ranplan In-Building is the most accurate and high performance indoor network planning tool created specifically for planning large, complex in-building wireless networks. With Ranplan's advanced propagation engine, 3D modelling capability, full access to the components database, as well as key optimisation modules, Ranplan In-Building empowers system integrators, mobile operators and equipment vendors to rapidly and cost-effectively plan indoor networks for a range of environments.

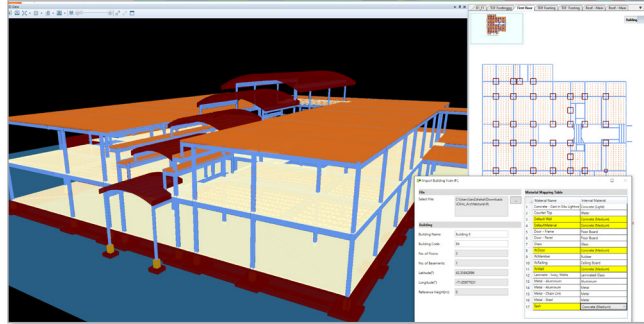
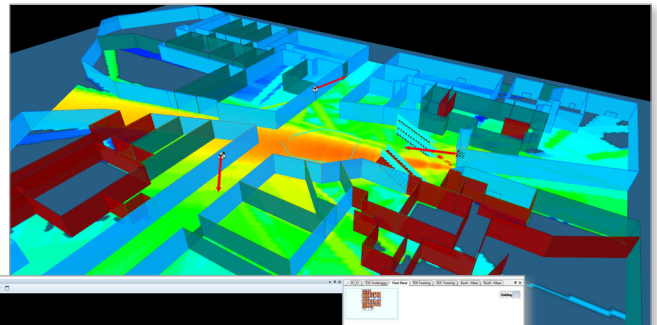
Key Benefits

- Supports indoor solutions such as active and passive DAS, small cells, and Wi-Fi.
- Supports multiple technologies such as Wi-Fi 802.11x, 3G, 4G (LTE), 5G NR, IoT, Public Safety, and Smart Cities.
- Fast indoor 3D ray-tracing.
- Full indoor coverage and capacity prediction.

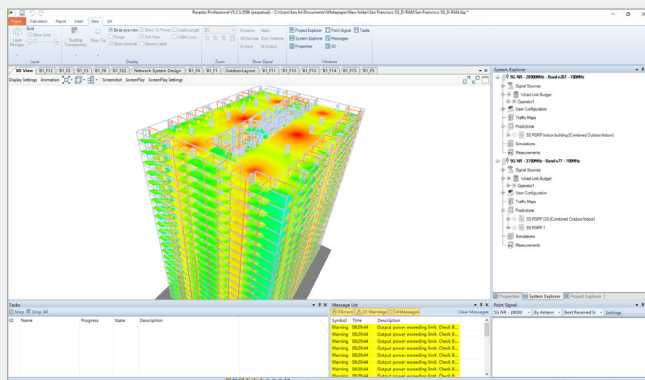
Automate in-building network design

Significantly reduce the time and cost of designing an indoor network using Ranplan's automation tools. Be confident in your designs by using a live database featuring multiple vendor approved components that are validated and compatible for all wireless technologies.

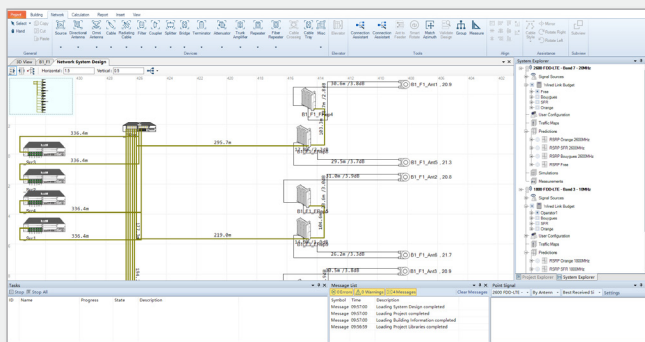
- ◆ Import IFC (Industry Foundation Classes) files including building material information from any BIM (Building Information Modelling) authoring software.
- ◆ Use the Smart Extract feature to automatically convert 2D/3D CAD files into rendered 3D building models.
- ◆ Import 3D Mesh files to accurately and efficiently model structures such as curved roof tops, tunnels and pillars.
- ◆ Use the Intelligent Floor Plan Recognition (IFR) function to convert a background image into a 3D vector building model.
- ◆ Flexibly model and design networks for a wide range of venues and environments.
- ◆ Components from large multi-vendor database.
- ◆ Active and Passive DAS, small cells and Wi-Fi.
- ◆ Intelligent Design Modules.



3D structure modelling



Simulating indoor coverage



Active DAS system

Predict and optimise indoor coverage and capacity

Evaluate indoor coverage using the 3D ray-tracing propagation engine. The Intelligent Network Design optimisation tools ensure the planned network is optimised to work with multiple technologies and meet indoor coverage KPIs. Simulate traffic usage with the WNS tool predicts the overall network performance and end-user experience.

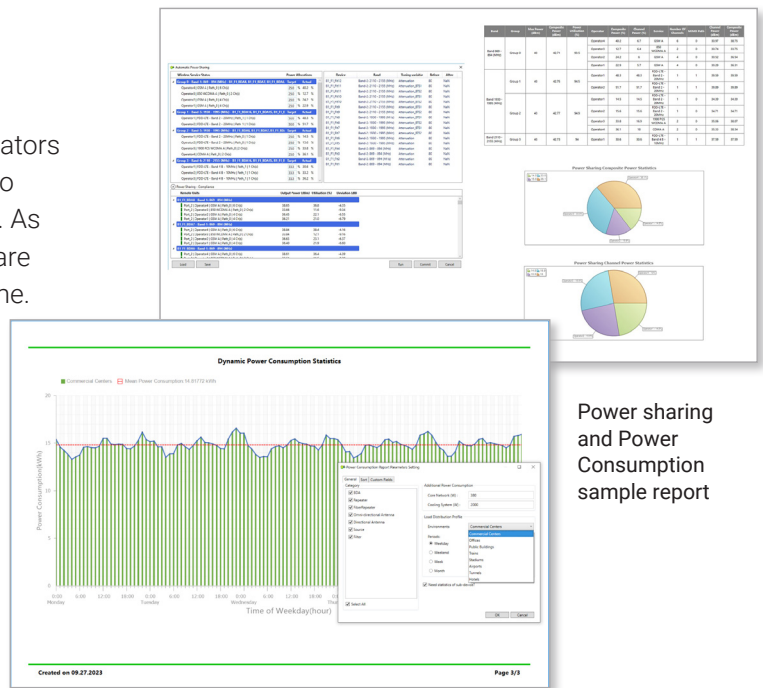
- ◆ True 3D ray-tracing propagation engine for predicting coverage inside complex indoor environment.
- ◆ 3D modelling, precise coverage maps and cross floor simulation.
- ◆ Intelligent Network Design: Intelligent Cell Optimisation/Automatic Cell Optimizer, Intelligent Topology Optimisation /Automatic Topology Optimizer and Intelligent Frequency Optimisation.
- ◆ Full traffic capacity analysis using the Wireless Network Simulation tool.
- ◆ Supports Reconfigurable Intelligent Surfaces (RIS) modelling and simulations.
- ◆ Supports energy consumption simulations with different distribution profiles.



Customisable and powerful reporting

The reporting editor provides users such as network planners/designers, equipment installers, project estimators and project managers with a convenient and fast way to produce relevant reports at the simple click of a button. As reports are automated, any changes made to projects are automatically updated in the reporting viewer in real-time.

- 🟢 Equipment list, equipment budget report, Bill of Materials, power consumption and other reports.
- 🟢 Cable routing report & cross-reference report.
- 🟢 Antenna EIRP and Antenna Link Budget report.
- 🟢 EMF compliance report.
- 🟢 Print Network System Design and Floor Layout Design.



Power sharing and Power Consumption sample report

Technical specifications

Minimum hardware requirements

Processor: Core i5-6th Generation, 2.0 GHz

Operating System: Windows 10 (64bit)

Memory: 8GB

Hard Disk Space: 50GB

Display: 1024 x 768

Recommended hardware requirements

Processor: Core i7 7th Generation, 3.0 GHz

Operating System: Windows 10 (64bit)

Memory: 16GB for medium projects /
32GB for complex projects

Hard Disk Space: SSD with minimum 100GB
For HetNet projects: minimum 300GB required

Display: 1920 x 1080

GPU: RTX graphic cards 3070 or above are recommended, (for AMD CPU we recommend GPU with 4GB+ RAM)

Wireless technologies supported

5G NR Sub-6GHz and mmWave

4G systems (3GPP Release 17) LTE/LTE-A

3G systems HSPA/HSPA+/WCDMA/1xEV-DO/TD-SCDMA

2G systems GSM/CDMA/EDGE/GPRS/TDMA

Public safety systems P25/PMR/DMR/LMR/TED/TETRA

IoT systems LoRa/eMTC/NB-IoT/SIGFOX

Wi-Fi (IEEE 802.11g/n/j/ac/ad/ax)

About Ranplan Wireless

Ranplan Wireless pioneers software solutions that help perfect the design, optimisation and automation of in-building and urban outdoor wireless networks, either in isolation or in coordination.

Our solutions enable companies to deploy next generation wireless networks for a range of applications, supporting multiple technologies and providing an unmatched quality of experience.

