

# Mobilfunknetzplanung



Für ein  
zukunftsgerichtetes Netz  
in der Schweiz

# Agenda

- Ericsson
- Regulations
- Antenna System & Tools
- Planning and Design



# Ericsson in Switzerland

Trusted Swiss partner since 1964

250 employees

Headquarter in Bern

Leading telecoms infrastructure & services supplier in Switzerland & Liechtenstein



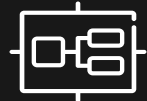
Mobile  
Broadband



Managed  
Services



Core and Cloud  
solutions



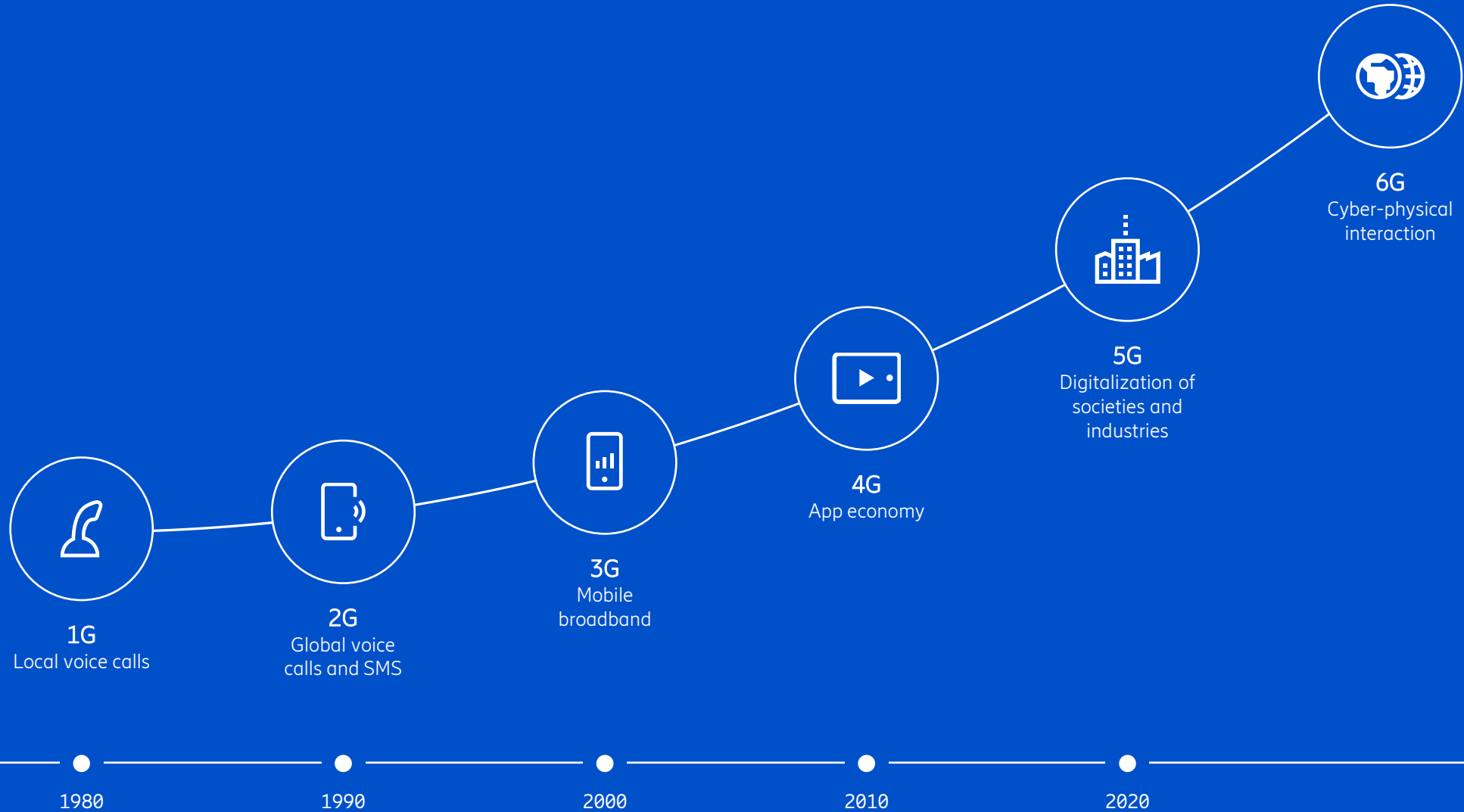
System  
Integration



OSS and BSS



# Driving the evolution of mobile networks

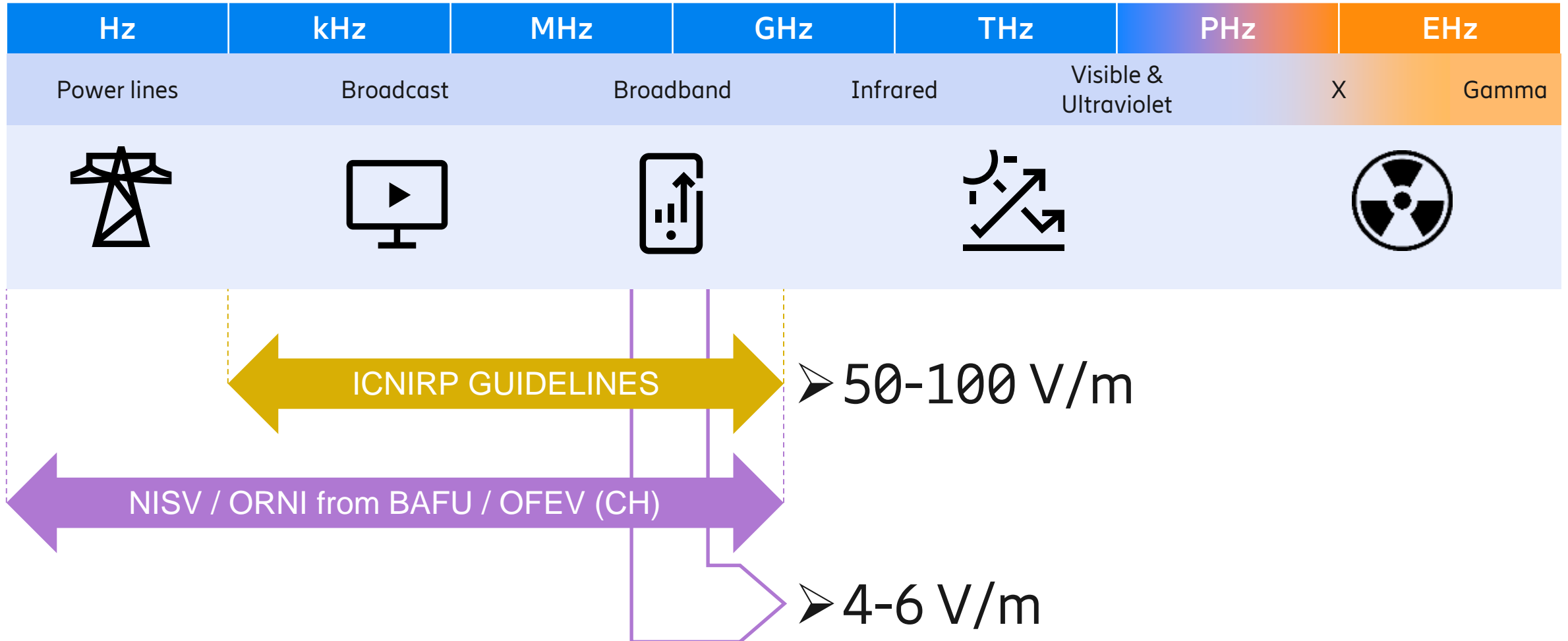


# Agenda

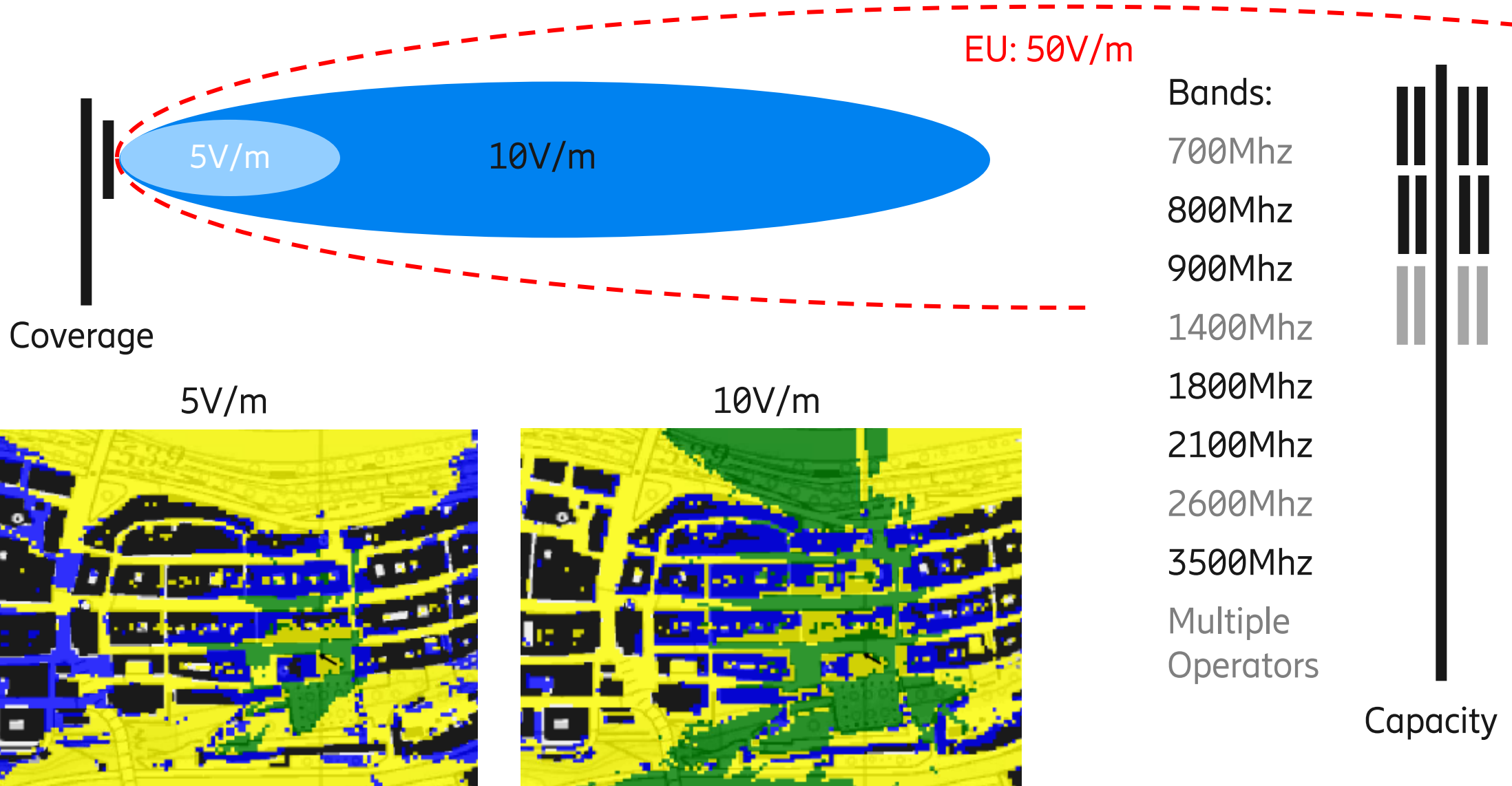
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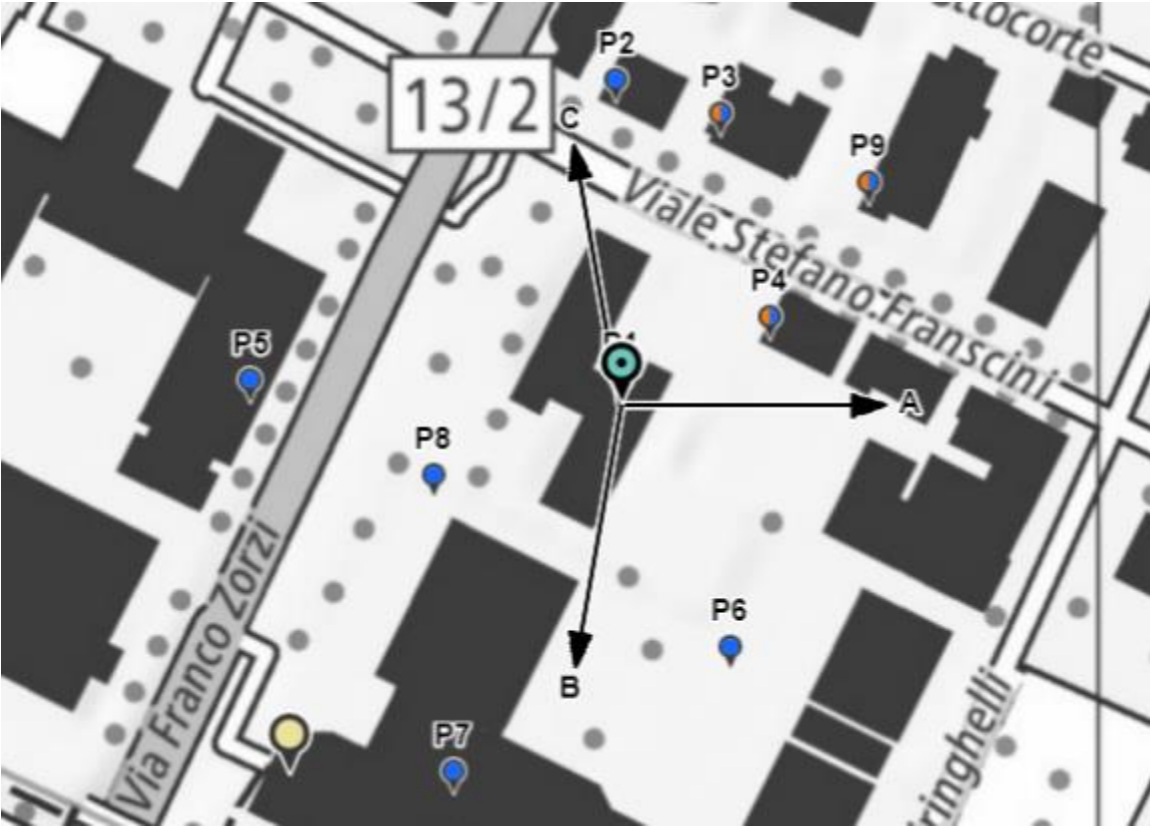
# EMF Regulations



# Influence on Coverage and Capacity

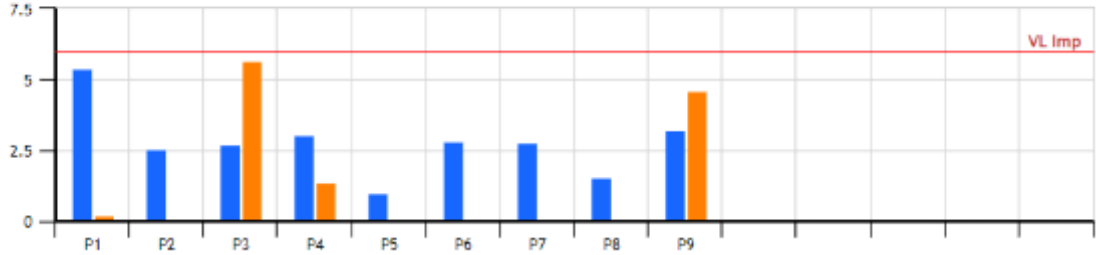


# Application



<https://www.oasi.ti.ch/>

Elettromog [V/m] Bellinzona, via Franscini 17 17.06.2005  
Dati calcolati - Dati misurati

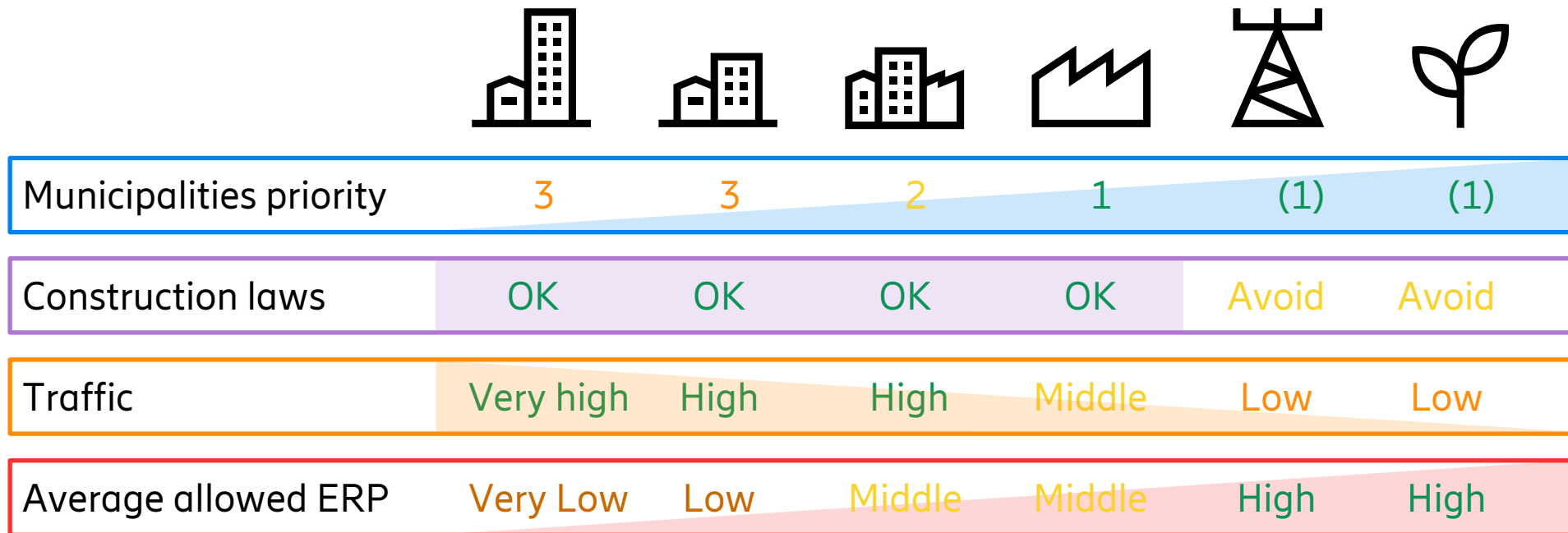




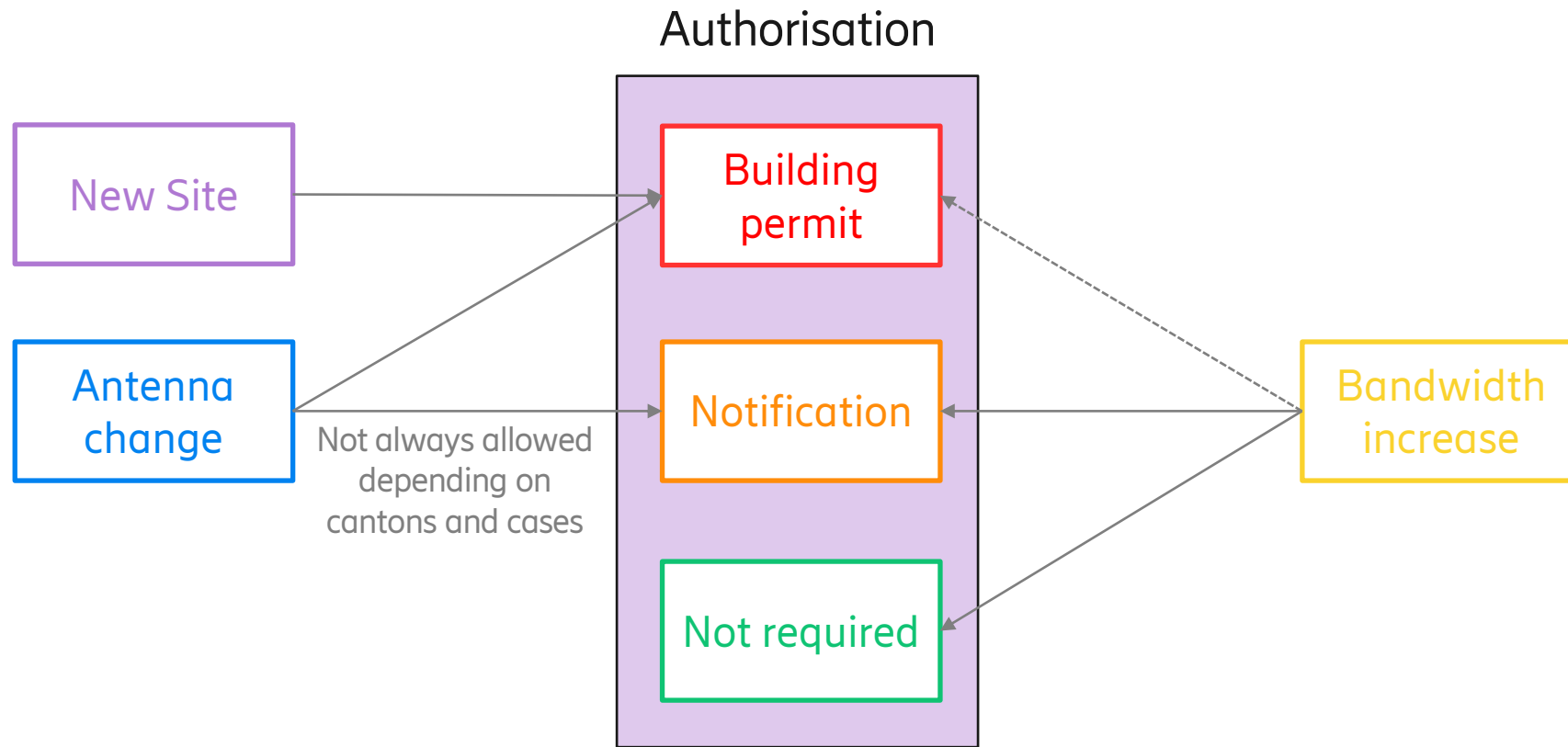
# Preferred areas for radio transmitters



- Planning regulations
  - Cascade model and priority areas
  - Communes and cantons goals are sometimes different



# Regulations - procedures



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# Addressing sustainability and site challenges



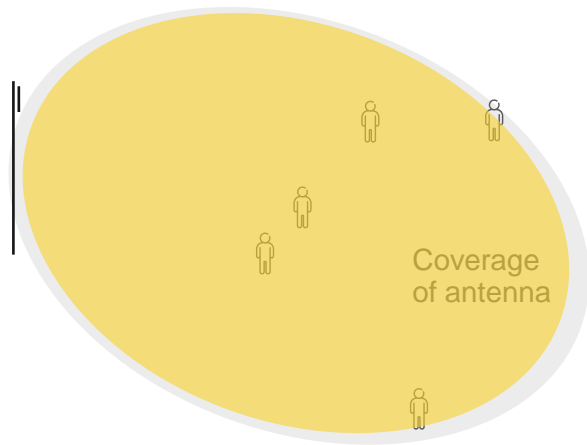
Reduced  
energy, size and weight

>10x  
speed and capacity

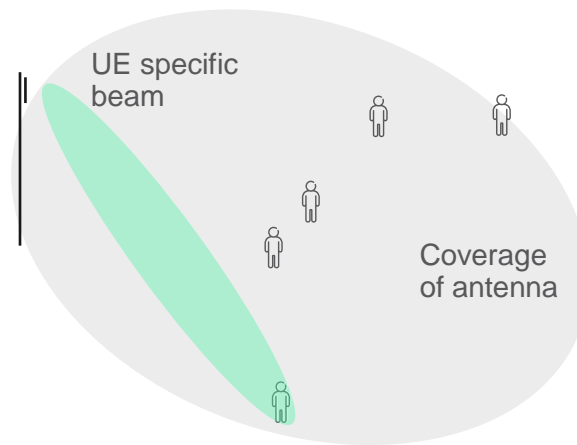
5G  
universal user experience



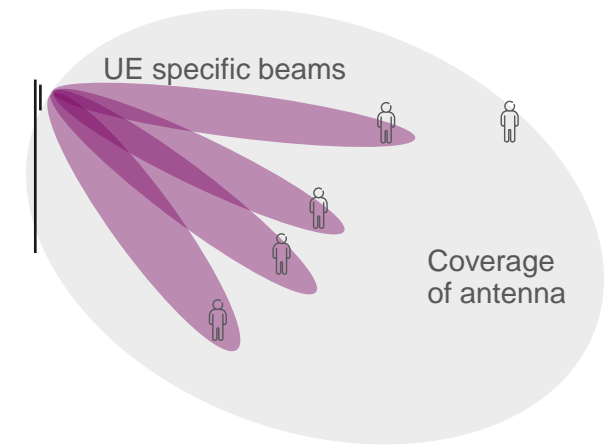
# Beamforming and MIMO



- Legacy Systems
  - Traditional antennas



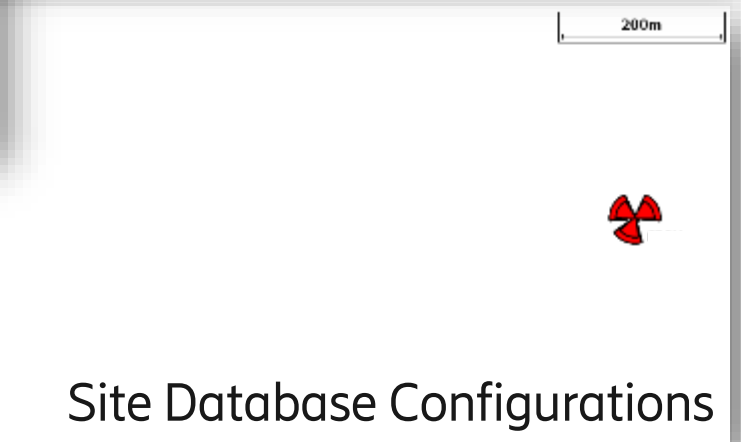
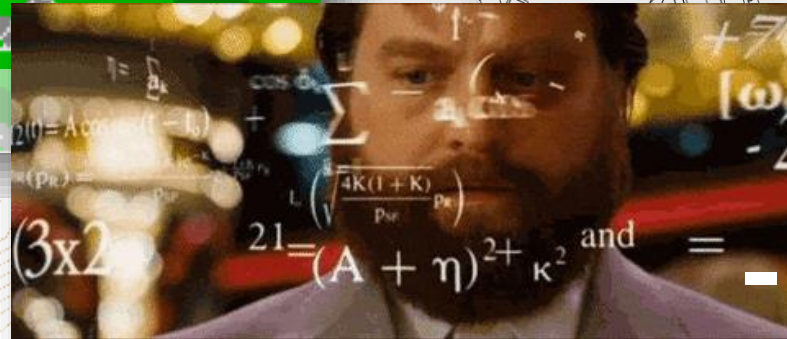
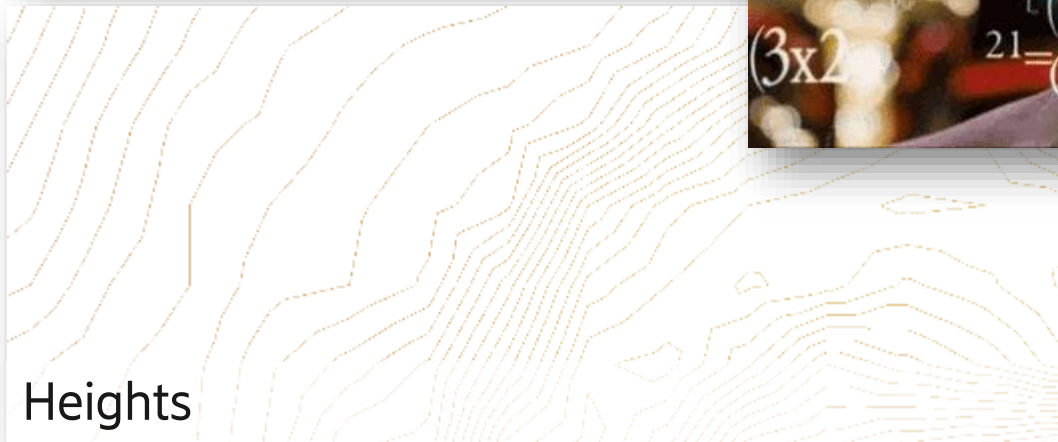
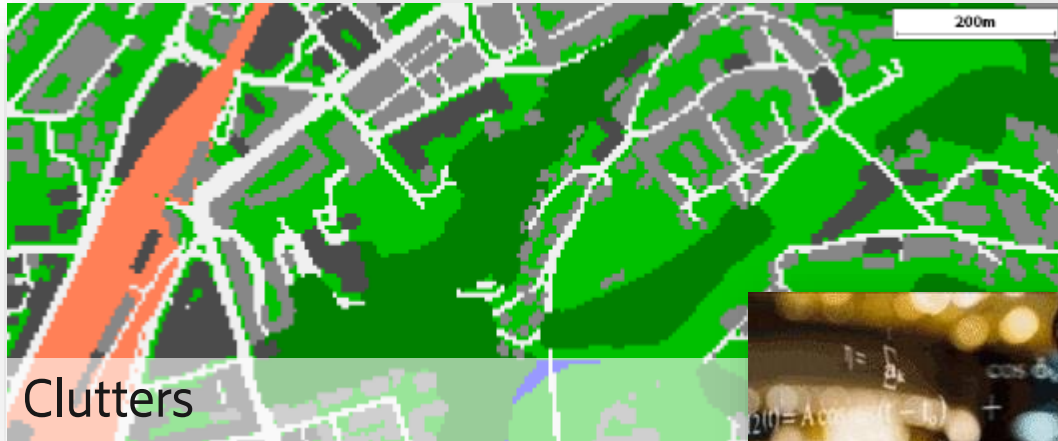
- Single-User MIMO
  - Sharp beam follows UE
  - One time-frequency resource is used per user
  - Higher SINR increases data rate
  - Benefit irrespective of load



- Multi-User MIMO
  - Multiple UEs reuse same frequency and time resources
  - Capacity gain in high load

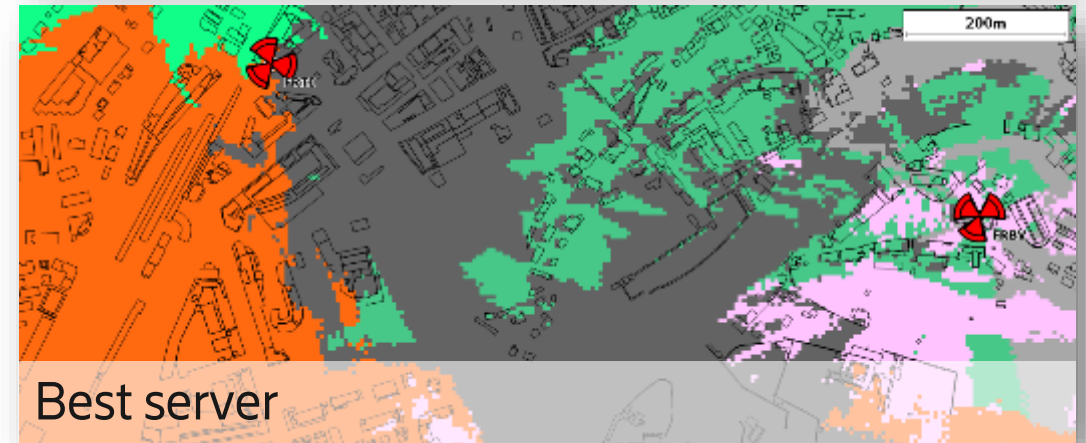
# Planning and Design activities

## Outdoor Design – Tool requirements



# Planning and Design activities

## Outdoor Design – Simulations

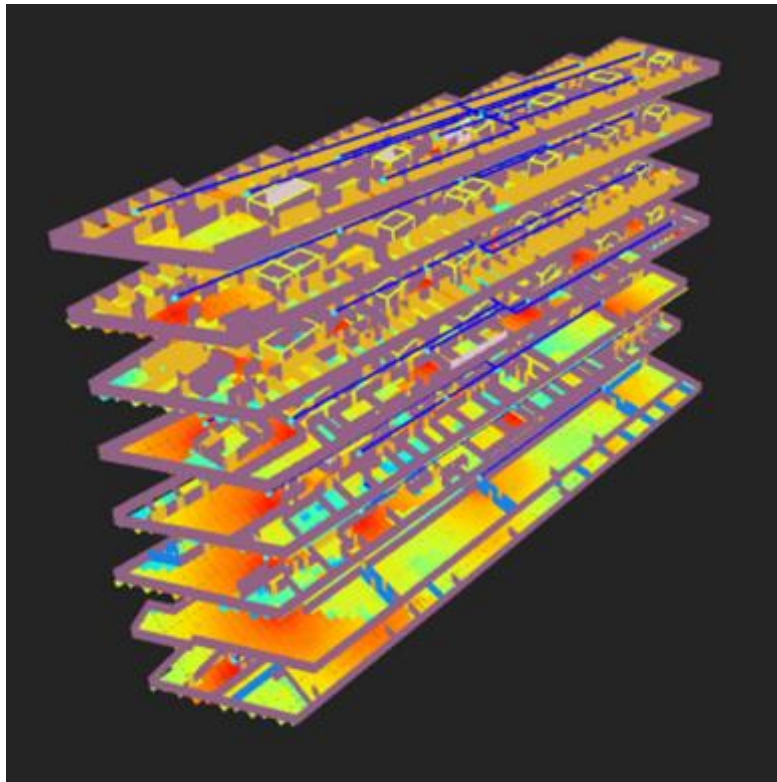


# Planning and Design activities

## Other services



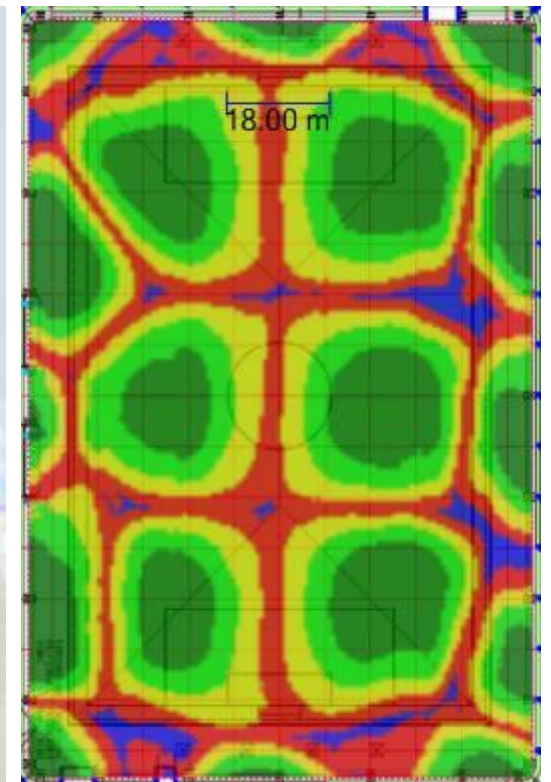
Indoor



Railway and tunnel



Stadium and events



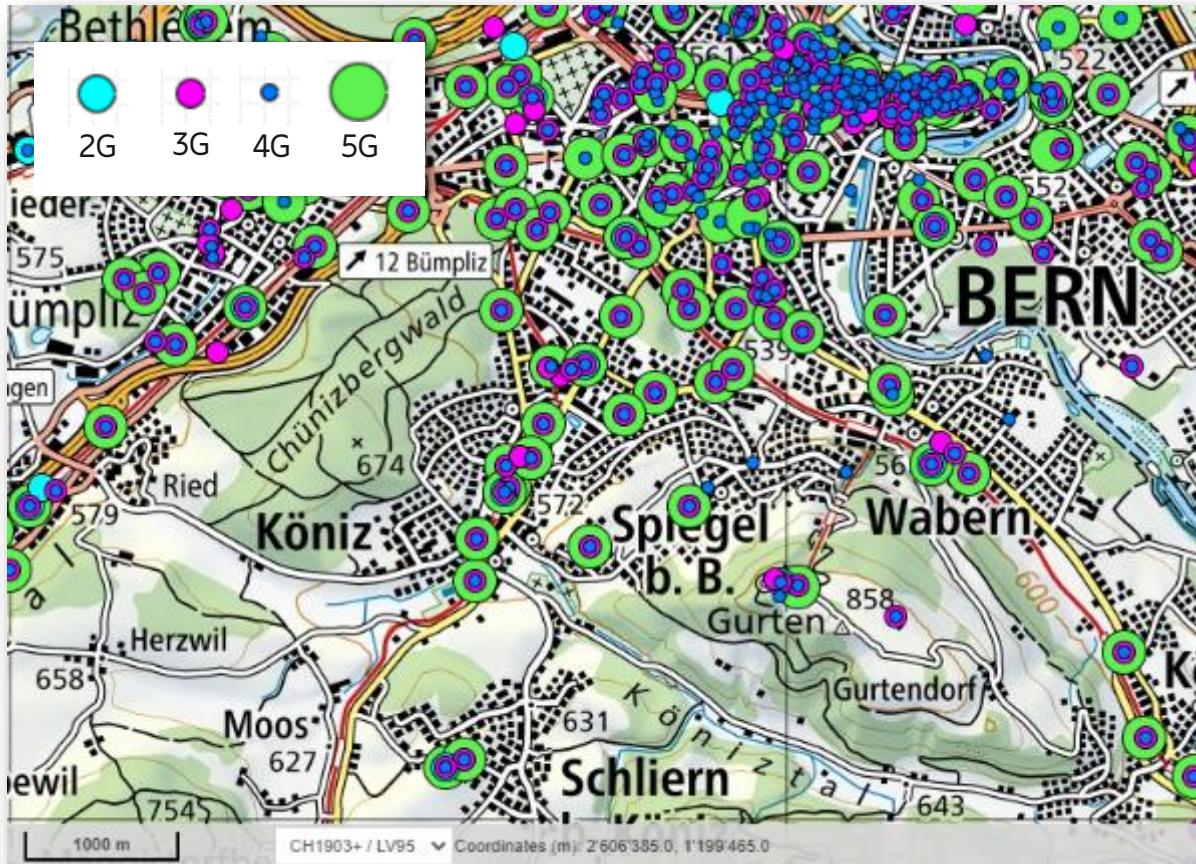


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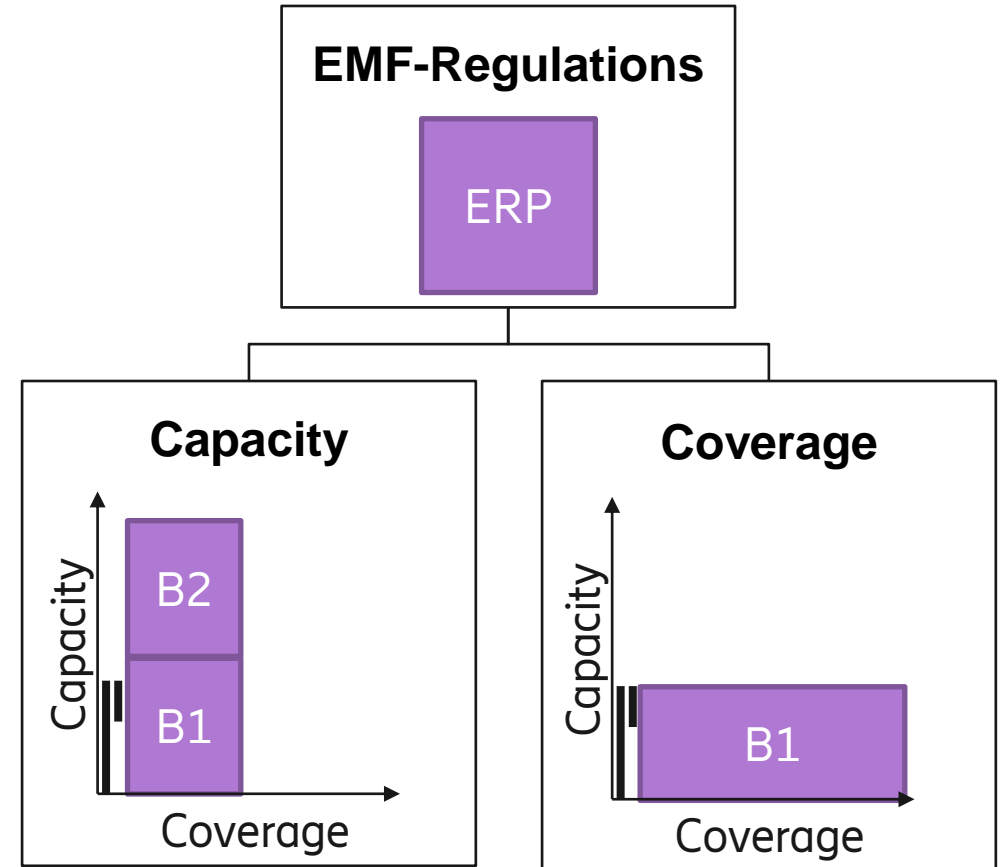
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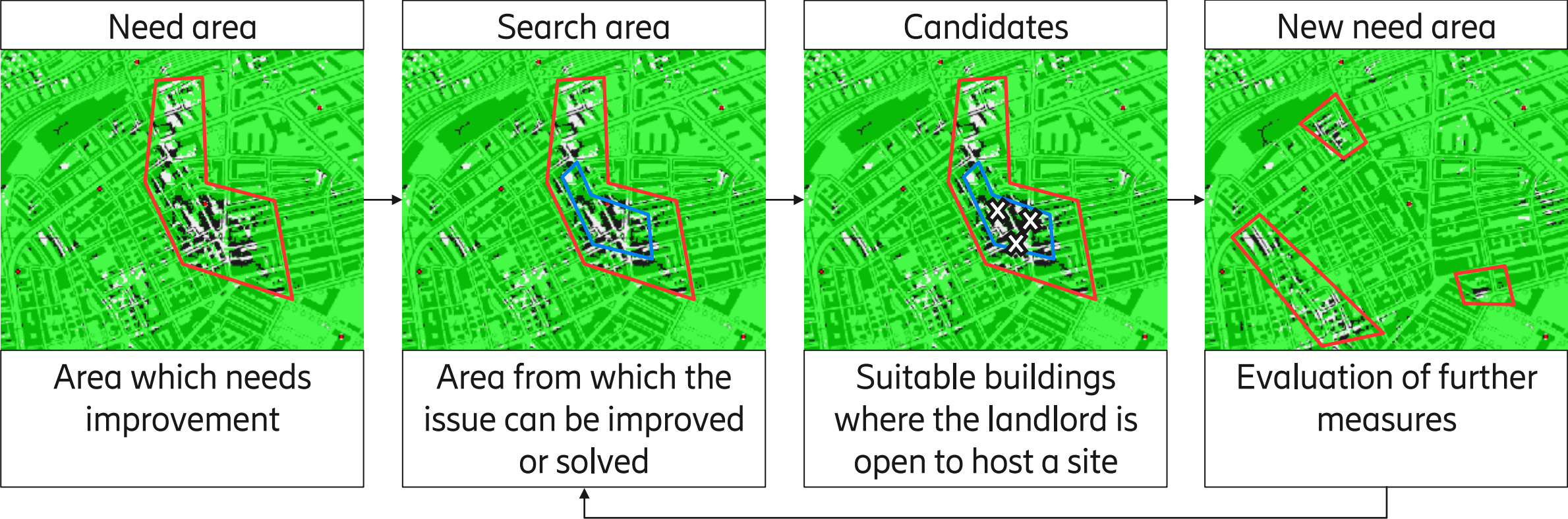
# Network densities



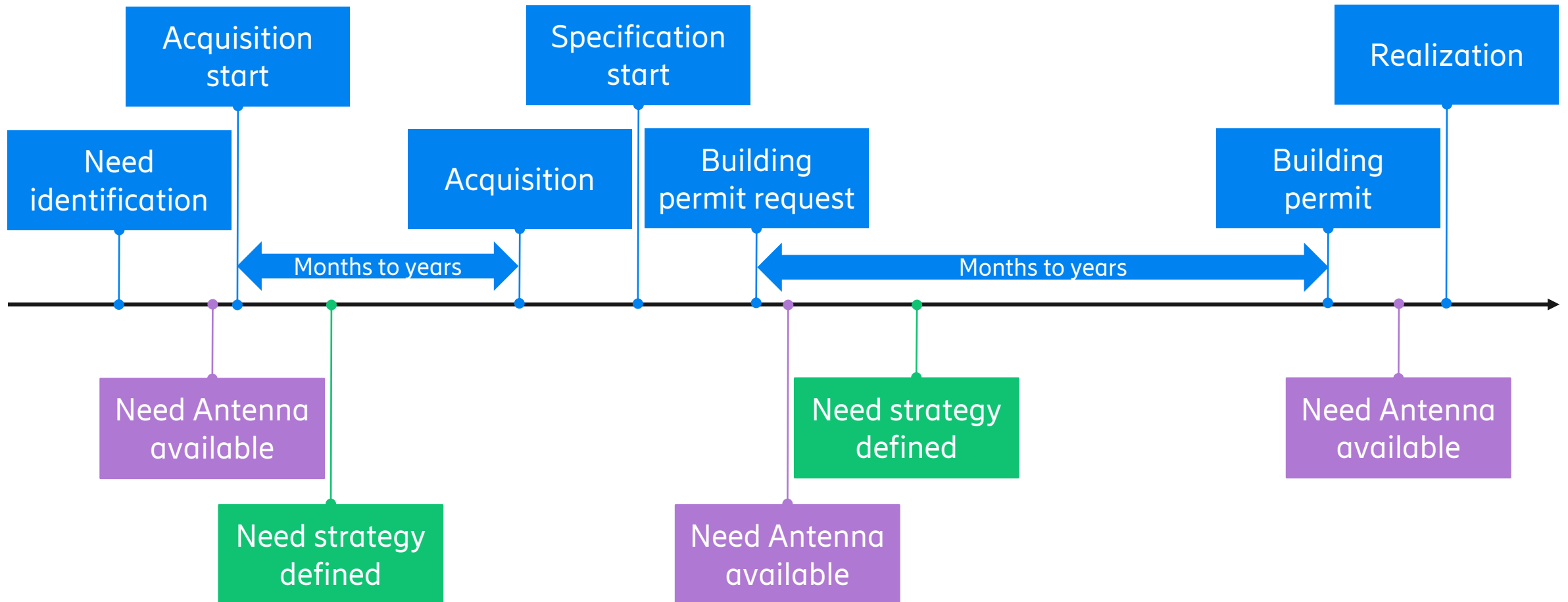
<https://map.geo.admin.ch/>



# Acquisition process



# Delivery time



# Design optimization

