인비저블 사이트

안광은 수석 네트워크 컨설턴트

Networked Society Day 2017

WHY INNOVATIVE SITE BUILD

Cell Size

› Shrinking from ~ 500m to < 100m

Limited placement options

› Site acquisition in cities very difficult

In favor of multi-application

› Municipalities more willing to provide space for multi-application sites

INVISIBLE SITES

Manhole Sites

ZERO Sites

Street Furniture Sites

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DEPLOYMENT CHALLENGES

ERICSSON × swisscom

- Lack of site space and increased site OPEX for:
  - Acquisition
  - Leasing
  - Backhaul

- Swisscom owns more than 100,000 manholes/vaults with fiber and power
  - Reuses for the radio site
  - Solves issues

MANHOLE SITE CONCEPT

MANHOLE SITE BENEFITS

› Lower TCO
→ 49 % savings*

› Shorter TTM
→ Reduce Site Acquisition

› Use current assets
→ Backhaul and power in place

** Swisscom results, compared to standard Small cell deployment*

- *TCO : Total cost of ownership*
- *TTM : Time to market*

RADIO FOR MANHOLE SITE

- Vault mounted RRU
- Based on mRRUS-12 B7 (2600)
- IP 68 – Water and gas proof
- Temp range: -40 ~ +65 ℃
- Power: ± 190 V DC
- Improved corrosion protection

ANTENNA INSTALLATION

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LAUNCHING THE ZERO SITE
CONNECTIVITY & LED – INNOVATING CITIES

UNIQUE ALLIANCE

› Ericsson and Philips

UBIQUITY OF LIGHTING

› X100 more light poles than telecom sites in the world

TRANSFORMATIONAL CHANGE

› LED lighting

› Network densification, difficulties to acquire sites, enabler for network performance

SUPPORTING CITY NEEDS

› Aesthetics, energy, process, connectivity & intelligence

4 KEY STAKEHOLDERS

ERICSSON | LG

OPERATORS

- Network performance in cities
- Site access, prime locations
- Reduced OPEX&CAPEX

ERICSSON

- Connected to operators
- Drives smart cities via heterogeneous networks

INNOVATING CITIES IN THE NETWORKED SOCIETY

PHILIPS

- connected to municipalities
- Drives smart cities via smart lighting systems

MUNICIPALITIES

- Reduced cost of civil infrastructure
- Enhanced aesthetics, civil acceptance
- Happy citizens

ZERO SITE

- Multi technology
- Transmission: Optical or Microwave
- Baseband, power and battery inbuilt
- Cabling and cooling via pole
- Low power consumption LED lights
- One day deployment

ZERO SITE – VARIANTS

ZERO SITE LARGE MODULES

Radome module options

- 2 RRUs with external antenna
- 6 mRRU with internal antenna

Underground box

- 20U HE 19” space
- Free cooling unit with maintenance-free filters
- Space for power, battery, baseband, site controller and other 19” equipment

ZERO SITE
LIGHTPOLE SITE SLIM

Radio 2205

Radio 2203

ZERO SITE LARGE COOLING

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INVISIBLE SITES – STREET FURNITURE SITES

JCDECAUX COLLABORATION

ERICSSON × JCDecaux

- Deliver radio equipment
- Measurement and climate input

- Structure design/adaptation
- Liability towards operator regarding climate

BUS STOP HOOD KPN, NETHERLANDS

TO SPEED UP ROLL OUTS

› Bulk site acquisition possibility with cities

- Operator's owned assets
- Go to market model together with e.g. Philips
- Collaborate with e.g. JCDecaux

› Supports mass deployment

INVISIBLE SITES

ERICSSON
LG