ENABLERS
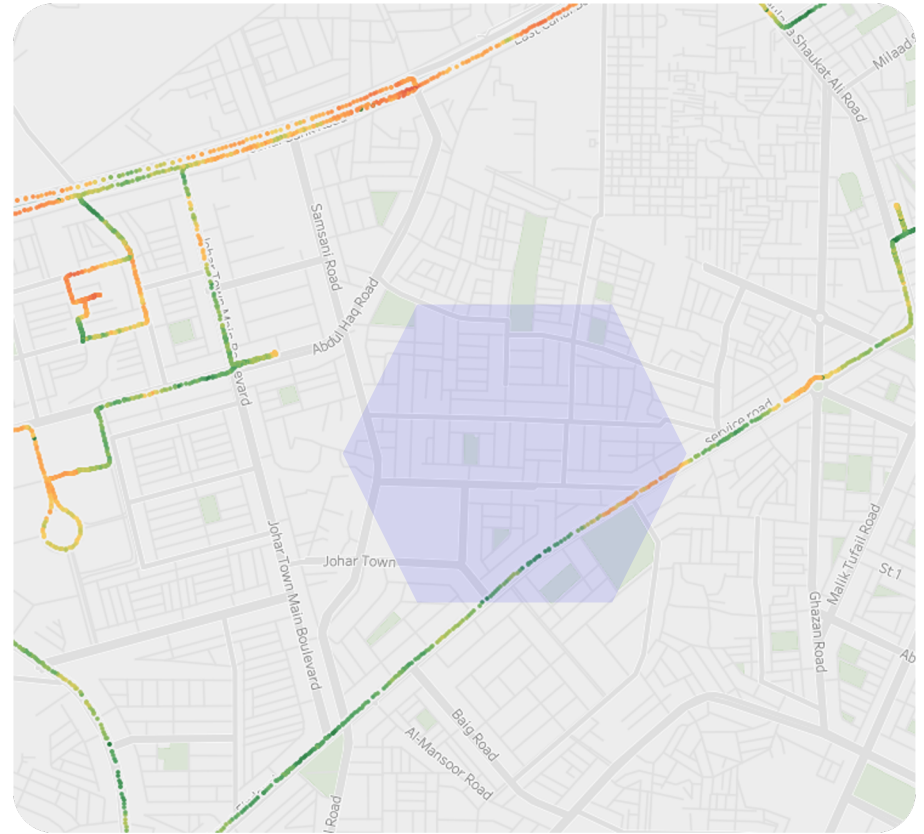
Hexagon based Network Mapping Visualization

October 15th, 2022

Shoaib Alam

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Legacy Drive Testing Approach

Crowdsourcing Approach

1

Limited number of parameters being collected passively.

2

User initiated tests are mostly by tech-savvy users creating bias

3

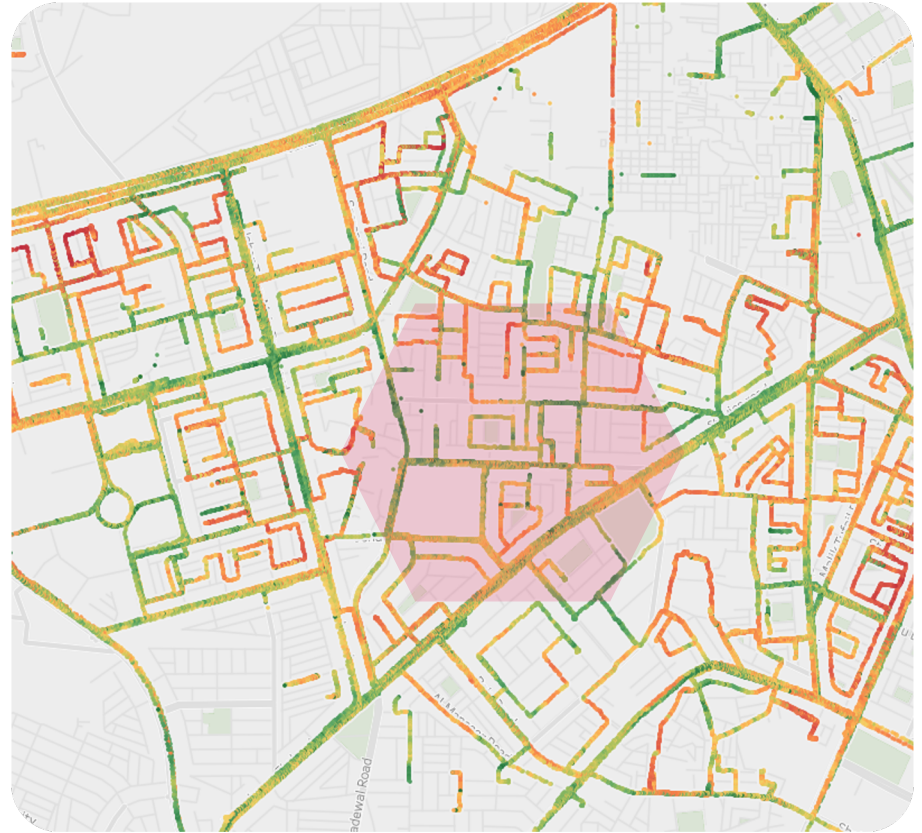Lack of underlying protocol details.

4
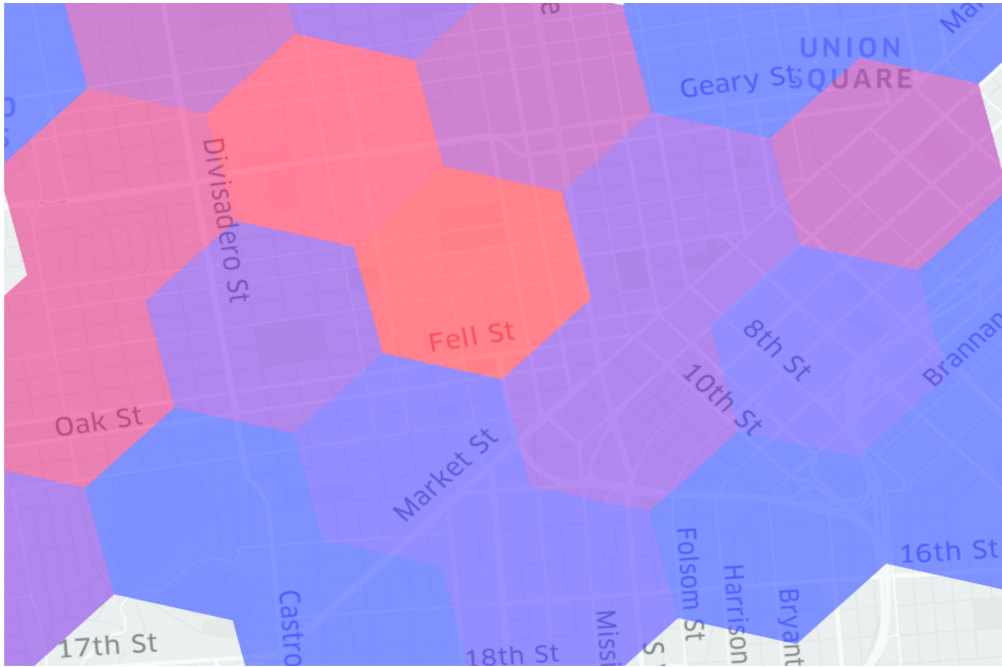
Increasing privacy concerns

5

Lack of active-test control.

Need for New Approach

- Active testing control

- Full layer visibility

- Comprehensive sampling across geographical and temporal planes

- Should not be dependent on users-initiated tests

- No passive data collection from third party applications

Proposed Approach

Market-wise Fixed Geographical Bins

0.7 km2

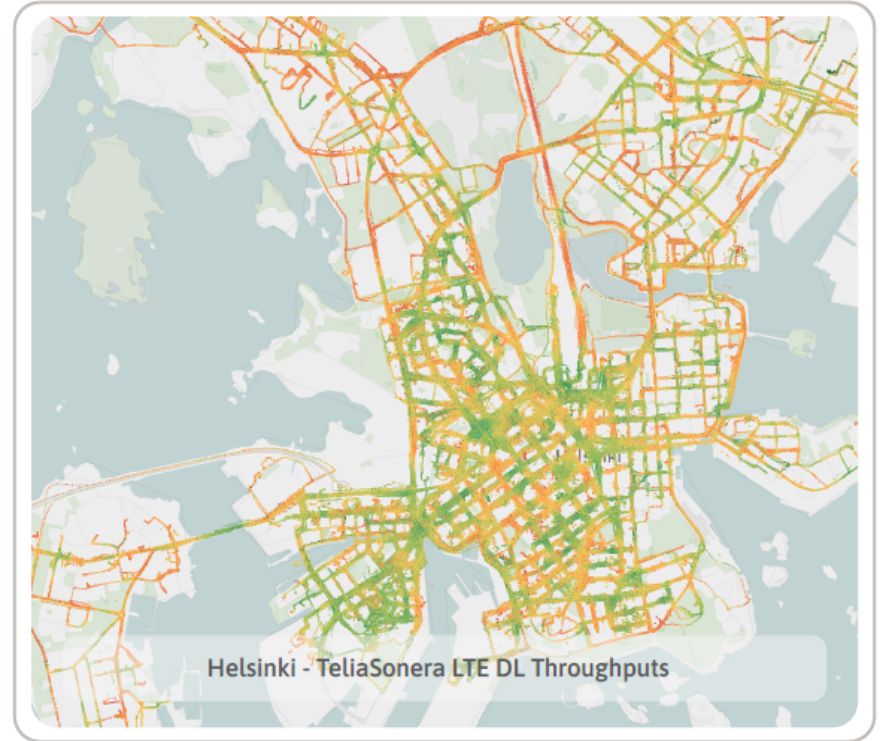0.1 km2

Practical Implementation Scenario

- Cloud Native Revolution platform

- Leverage urban mobility

- Thorough visibility for all the services

  Network Independent KPIs

- Zero-touch Field Operations

- Qualcomm ICD licensed mobile app

Helsinki - TeliaSonera LTE DL Throughputs

Ranking

✓

DNA

wins in **115** out of **222** bins

DNA	115	51.80 %
Elisa	92	41.44 %
TeliaSonera	15	6.76 %

Download Speed

DNA	16.98 Mbp/s
Elisa	15.85 Mbp/s
TeliaSonera	13.63 Mbp/s

Sampling Statistics

DNA   Elisa   TeliaSonera
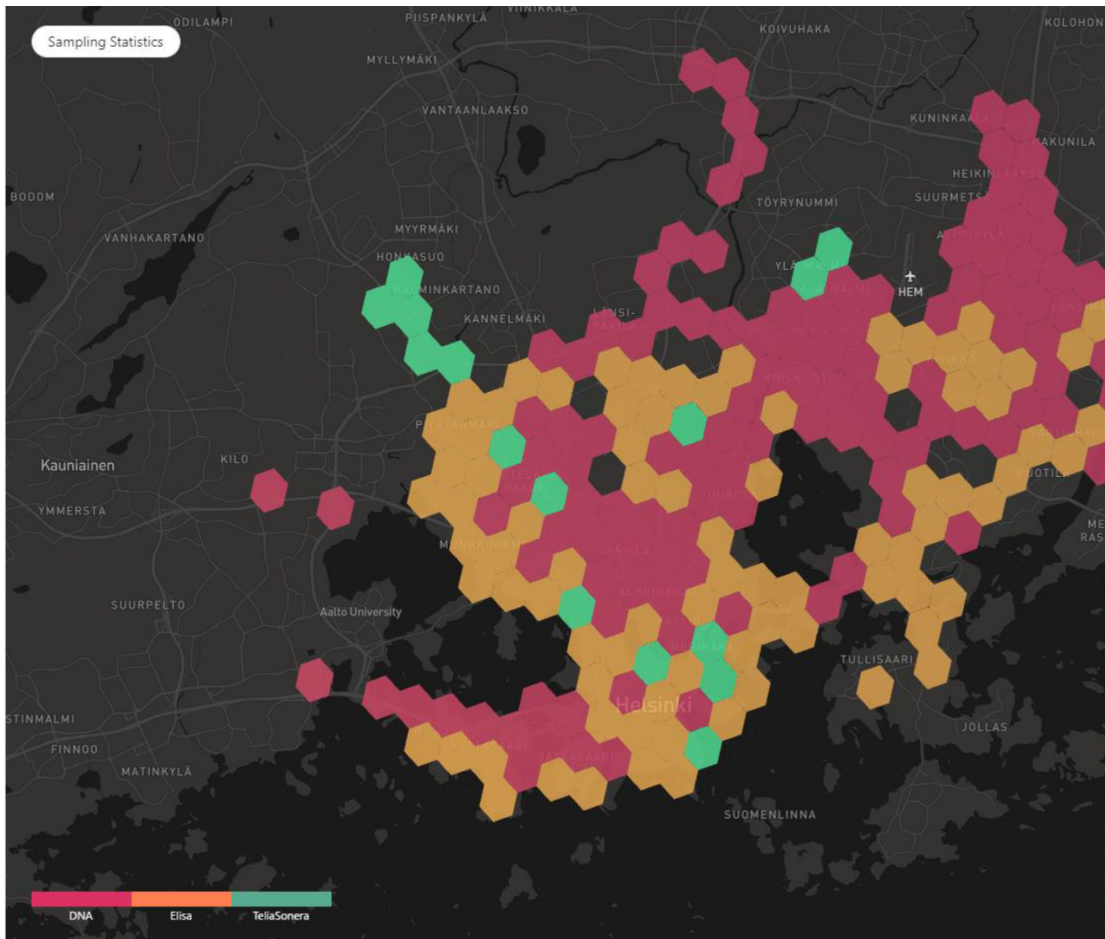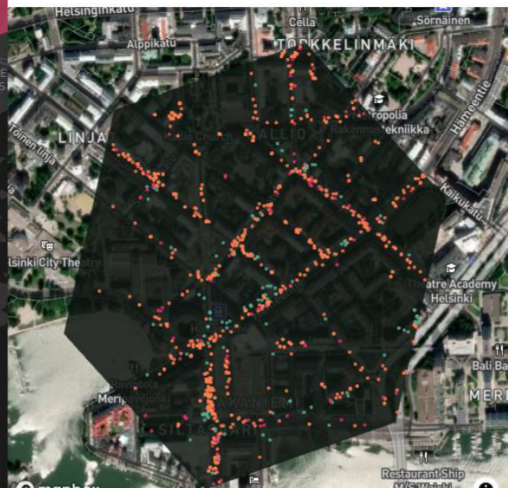
Bin Details

DNA	142	15.61 Mbp/s
Elisa	1053	15.59 Mbp/s
TeliaSonera	208	13.77 Mbp/s

Active Tests

1,403

Our Approach

Urban Mobility + Our Devices

Ride Hailing

Food Delivery

Q-Commerce

Courier/Postal

Cloud Computation

Scalable Capacity

Data Postprocessing

pipelines

Web-based Platform

KPIs

Analytics/Insights

Alerting

Data Visualization

Supported Android Phones

Nokia
X20

Samsung
S21

Google
PIXEL 5A

OnePlus
9T

RF Info

Diagnostic Port RF Info

Signal Strengths (5G NR, LTE, UMTS, GSM)

Signal Messages

Serving/Neighbor cells info (All Technologies)

CA info

Serving Cell Band, NR ARFCM, PCI

Handover Info (Inter-RAT, Intra-RAT)

Scell Event

Signal Quality (All technologies)

SINR (All Technologies)

Core Features

Comprehensive protocol-level Event Pegging

Realtime Network Events on cloud

Realtime Test Results

Native Log Files can be exported as CSVs

Complete Cellular Protocol i.e., 3GPP, L2, L3

POLQA v4, PEVQ-S

Cell and Carrier Info

Operational Visibility
(Battery Levels, Resilience Use cases)

Locking Support
(Technology, Band, Carrier)

OTA Update Enabled

Test Types

HTTP Data DL

HTTP Data UL

FTP DL

FTP UL

Voice Call (MOS)

HTTP Browsing

SMS

YouTube

WhatsApp

Speed test DL UL

Ping

Technologies

5G NR

CBRS

LTE/LTE-A

WCDMA/HSDPA/HSUPA

GSM/GPRS/EDGE

VoNR/VoLTE

Wi-Fi

Log File Formats

CSV

NMF

Thank You!

Drop us a message at:

info@enablersinc.com