Imagine a world where limitless connectivity means limitless possibility

We are a world leader in mobile networks

147

live 5G networks



granted patents

105,500

employees worldwide





Note. Data as of May 2023

Big MIMO Systems!





The propagation channel from a base station to user is a MIMO LTI system

$G_{11}(s)$	$G_{12}(s)$	 $G_{1,N_{ m t}}(s)$
•	÷	:
$G_{N_{ m r},1}(s)$	$G_{N_{ m r},2}(s)$	 $G_{N_{ m r},N_{ m t}}(s)$

Ericsson Interference Sensing



AI/ML-Based Positioning from Channel Estimates

Every possible user position has unique radio channel to the base station – a "fingerprint"!

Thesis objective:

Configure, train and evaluate an AI/ML network predicting the user location from real radio channel estimates



→ AI/ML mobile location prediction based on synthetic propagation channel training

Challenging Maths Problems



Massively parallel computations implemented in custom silicon:

- Filtering
- Correction
- Calibration

- → Nonlinear system identification of multistage power amplifiers
- → <u>ML-based modelling of power amplifiers</u>
- ➔ Power-optimal algorithms for next-gen mmWave (apply to first ad)

Imagine Possible

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