



Take advantage of mobile waves, WIFI...and the Telcos's data for the environment.

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Mobile and Local Waves...could bring more than voice and data...

- Mobiles Waves...for forecasting pollution, weather...
 - Measuring rainfall with mobile phone networks is already used: The electromagnetic signals transmitted from one mobile telecommunication antenna to another are attenuated by rainfall. ->The rise and fall of signal strength in each "link" provides an average measure of how much rain there is between them.
 - With the new range of wave length (5G...lower wave length than 4G), it can be worthwhile to look for:
 - new use-cases (air pollution sensor)
 - improving existing ones (weather predictions)
- Local Waves (WIFI)...for health
 - It seems that WIFI could be used for cardiac tracking :cf. [this article](#)
 - Therefore, use-cases with local waves could be also researched
- Various sources of data (Local waves, Mobile waves, IoT's data) could be combined to reinforce the identification of a phenomenon
 - e.g air pollution by crossing the analysis of mobile waves with the analysis of the heart rhythm (or others personal signals through local sensor)

Interest for telco and company involved in telecommunications

- Beside their usual business (voice, data), the Telcos could take advantage of:
 - their network (global and local) and also the future IoT network
 - their ability to gather and analyse a huge and various amount of data,
...to bring new services to the society in relationship with hot issues (environment, health)
- *Because network is deployed and the datacenters are operational it could be a big opportunity with low investment.*

Who should be enrolled ?

- Telco and Hardwaremakers could be interested and skilled to assess what is possible.

The main competences are :

- transmission, radars...
- signal processing
- data mining
- big data analysis

- National Research Labs (CEA, CNRS,...) could be involved. See for instance existing ChArMEx (French ANR program).

Thanks !

