This PhD thesis aims to contribute a uniquely comprehensive account that improves on each of the above limitations. This is possible with the help of an original and extensive smartphone usage datasets that we plan to analyze. This thesis will thus build on ongoing face-to-face interactions research but an enabler whose impact depends on how it is being used. To understand smartphones' role in the social integration of individuals in contemporary societies. They have changed the cultural norms and behavior of individuals, bringing positive (e.g., by simplifying information access and communication) and negative impact (e.g., by enabling people to create their own micro-cultures and engage into activities considered dangerous by society). As a consequence, smartphones enable and constrain social integration, we need to understand (1) how, where and for what they are used, (2) how the uses of smartphones vary, as well as (3) how the psycho-social behavior of smartphone usage operate. The PhD thesis aims will be to expand our knowledge of how smartphones enable and constrain social integration, rather than attenuating them when used correctly.

As our lives become more dependent on connectivity, it is easier to see that people have become eager to engage with mobile applications and connected services 1,4. As a consequence, smartphones have turned from a means of communication to a tool with high potential impact on the social integration of individuals in contemporary societies. They have changed the cultural norms and behavior of individuals, bringing positive (e.g., by simplifying information access at any time, with potential of facilitating better education systems in developing countries; by shortening geographical distances, social bonds are kept active, reducing stress while promising social support 3,5) and negative impact (e.g., by enabling people to create their own micro-cultures and engage into activities considered dangerous of society 3,5; by amplifying pre-existing differences in social participation and integration, rather than attenuating them 2,5, by having a highly negative and destabilizing influence on ongoing face-to-face interactions 2,5).

**Contexte et atouts du poste**

Today’s smart handheld devices allow heterogeneous free data gathering of human surrounding environment and networking usage patterns anytime and anywhere. Hence, an unprecedented large amount of human sensory data (i.e., the Big Data era) can be collected and processed: opening ways to connect people, technology, and business. This big data implies advanced knowledge of humans’ behaviour and interactions at a planetary scale and can help tackle networking challenges when used correctly.

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**Mission confiée**

Thus, while examples of benefits of their usage can be easily found, smartphones are not a guarantee of social integration but an enabler whose impact depends on how it is being used. To understand how smartphones enable and constrain social integration, we need to understand (1) how, where and for what they are used, (2) how the uses of smartphones vary, as well as (3) how the psycho-social behavior of smartphone usage operate. The PhD thesis aims will be to expand our knowledge of smartphone usage, to connect that knowledge to the impact on social integration; and to provide policy recommendations on infrastructure and technological design development to improve and expand the social integration of individuals.

Current knowledge is fragmented because of the tendency of previous research to focus on: i) the study of specific behavior of smartphone use (ignoring thus complex interactions between behaviors), ii) small-N data on specific features of smartphone use, and iii) disciplinary-specific perspectives. Building on that knowledge, this PhD thesis aim to contribute a uniquely comprehensive account that improves on each of the above limitations. This is possible with the help of an original and extensive smartphone usage datasets that we plan to analyze. This thesis will thus involve tasks related to dataset processing, enrichment and modeling as well as data analysis and knowledge extraction.
Principales activités
The outcome of the thesis would be to build on the acquired human knowledge and technology usability to provide policy recommendations on infrastructure and technological design development to improve and expand the social integration of individuals.

Compétences
Candidates must have a Master of Science or equivalent degree in Computer Science or Electrical Engineering. The ideal candidate has a strong background on machine learning, protocol design, scripting, statistics, and data mining. Knowledge of social networking, or complex networks is a plus. Candidates must be fluent in written and spoken English.

Avantages sociaux
- Restauration subventionnée
- Transports publics remboursés partiellement
- Sécurité sociale
- Congés payés
- Aménagement du temps de travail
- Installations sportives

Rémunération
1.982 euros brut/mois durant les 2 premières années, puis 2.085 euros brut/mois durant la 3ème année