km-scale Industrial Networking

Mots clés :
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● Ecole doctorale : École Doctorale Informatique, Télécommunications, Électronique de Paris
● Domaine scientifique principal : Divers

Résumé du projet de recherche (Langue 1)
The objective of this research is to apply industrial networking techniques to long-range wireless technologies. Specifically, we will apply the resource management and Time Synchronized Channel Hopping (TSCH) solutions being standardized in the IETF 6TiSCH working group to IEEE802.15.4g.

Résumé du projet de recherche (Langue 2)
This research will focus on distributed resource management, and determine its applicability to the Industrial Internet of Things (IIoT). When using distributed resource management, neighbor nodes communicate with one another to add/delete cells in a communication schedule, without requiring the presence of a central scheduler. The complexity is to (1) integrate this link-layer resource reservation with the routing protocol, and (2) ensure resources negotiated with a neighbor node are part of a track which offers end-to-end quality of service. No research exists which exploits this approach. Small-scale experimentation and real-world pilot deployments will be used to validate the solutions.

Informations complémentaires (Langue 1)
This thesis will benefit from the IETF 6TiSCH state of the art and will provide contribution to this group. This thesis will also provide input to the Smart metering and Utility Networks (SUN) Alliance.