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NETWORK INFRASTRUCTURES FOR THE UNCONNECTED

CONNECT

CONNECT UNCONNECTED COMMUNITIES AND THINGS USING LOW-COST NETWORK EQUIPMENT AND OPPORTUNISTIC COMMUNICATIONS

Motivation

Connect focuses on providing communication infrastructure and connecting devices (e.g., smartphones, sensors...) to support various services (e.g. emergency, production...).

Reduced or non-existent access to Information and Communication Technologies (ICT), negatively impacts the human development index of a society, contributing to today's digital divide. This can be observed in remote areas of both developing and developed countries, which limit their social and economic capacity to grow.

Additionally, interference and/or limited communication range may result in disconnected devices that cannot provide valuable information for the aforementioned services.

Solution

Connect is comprised of low-cost network equipment and services, tailored to answer the needs of these underserved communities.

By relying on the WiBACK technology*, infrastructure is easily deployed to those who once found themselves unconnected. When a connection is not available, Connect resorts to opportunistic communication to transport information to connected areas. Moreover, connectivity can also be extended using mesh networks and using retrofittable, legacy technology, in order to increase network capillarity towards these communities and to perform prescriptive maintenance in production lines, avoiding failures, for instance.

Benefit

Connect aims at linking people and ICT in a seamless way, in order to promote the digital inclusion by offering access to an infrastructure for broadband Internet, as well as adapting existing/legacy technology in order to connect citizens. *Connect* reduces deployment costs by allowing flexible and interoperable integration into existing/legacy networks, by extending their capillarity using mesh or opportunistic data exchange, refraining from costly investments in infrastructure.

*www.wiback.org

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