TRACK

Train Applications over an advanced Communication Network

The TRACK project researches the difficulties of the usage of internet in the train. This application usually stays limited to on-board internet, but in this project we search for a broad spectrum of railway communication services as train control and diagnosis, real time passenger information and amusement, safety services etc.

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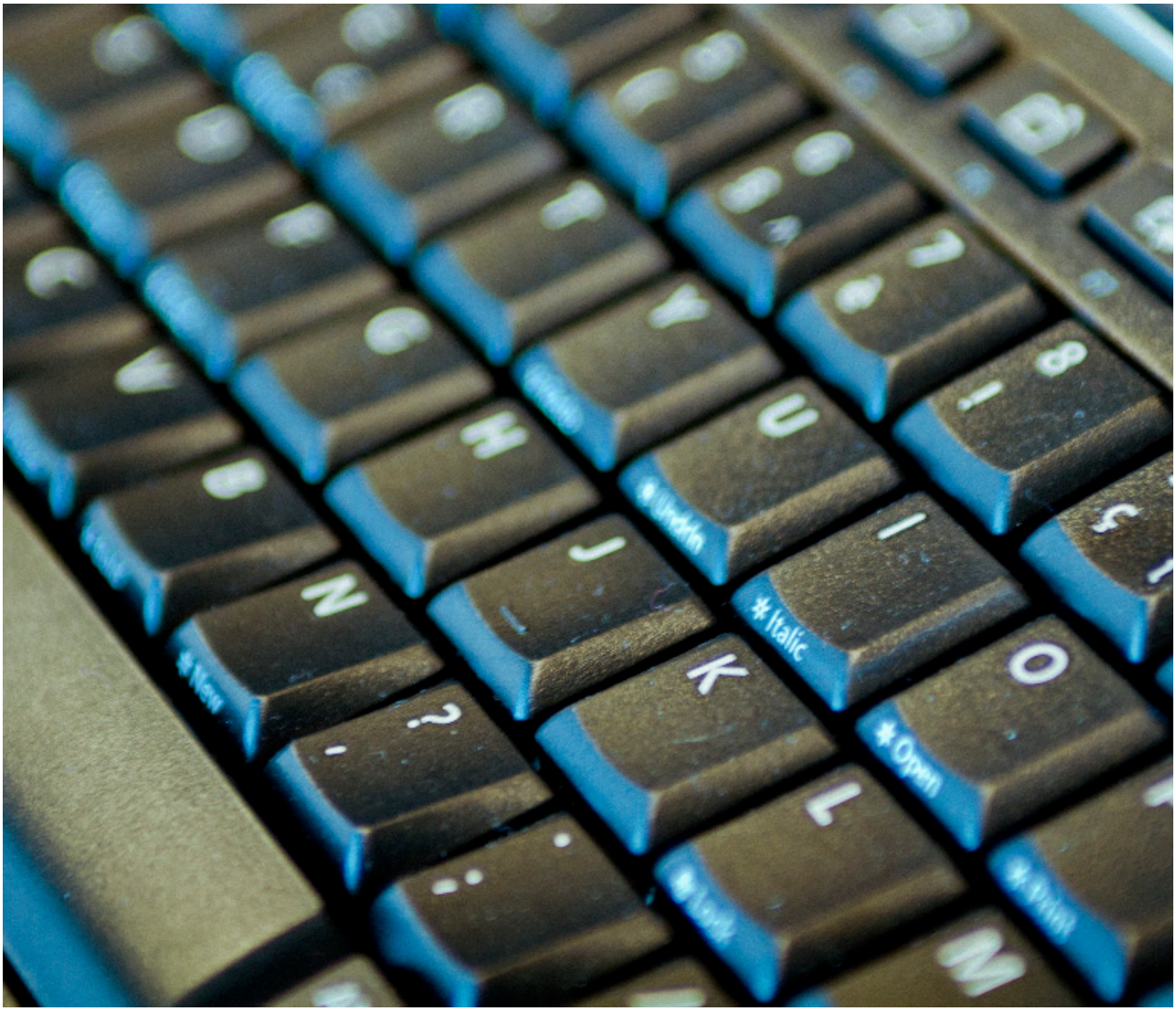

SUPPORT AND RESEARCH

Although Internet on the train and train to wayside communication in general becomes more and more available for train operators and related companies like train constructors, there are still a lot of challenges for future research. Some important breakthroughs were already made in the IBBT GBO TR@INS project.

The main focus of TR@INS was on network solutions for mobility and QoS support to deliver broadband Internet Services for crew and passengers on the train.

Project Summary

In many cases however, limiting the offered services to only onboard Internet is not a feasible business case. It should be extended to a broad spectrum of railway communication services like train control and diagnostics, real-time passenger information and entertainment, security services (like CCTV surveillance), etc.

There is a lot of interest for those services and they could also be drivers for future Internet on the train services. Today many network and application issues are still unresolved or need further attention before a wide range of services can be offered with sufficient QoS guarantees in a dynamic train environment.

Main Research Objectives

- Network optimization
- To analyze the dynamic wireless behaviour of relevant wireless technologies (satellite, WiMAX, WiFi, 3G/4G…) in terms of bandwidth, delay, delay variations, bit error rate…
- To optimize the throughput in a dynamic wireless train environment through Performance Enhancing Proxies
- To investigate IPv6-based solutions for end-to-end QoS and mobility support incorporating intelligent link aggregation techniques and a flexible policy decision function

RESEARCH SUBJECT

This project is part of the
IBBT research subject
Mobility&Logistics

Sustainable Mobility

Looking for a modern mobility system that allows everyone to travel how and anywhere they want.

IBBT RESEARCH GROUPS

IBBT-PATS-UA
IBBT-IBCN-UGent
IBBT-MMLab-UGent
IBBT-WiCa-UGent
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connect.innovate.create

IBBT vzw
Gaston Crommenlaan 8/102
9050 Ghent, Belgium

T + 32 9 331 48 00
F + 32 9 331 48 05

www.ibbt.be
info@ibbt.be