

## P01: IBBT (Belgium)

## **Description of expertise & activities**

The INTEC Broadband Communication Networks research group (IBCN – <u>www.ibcn.intec.ugent.be</u>) is a leading telecommunications and software research group based in Ghent, Belgium, belonging to the Department of Information Technology (INTEC) of the Ghent University (UGent). IBCN is also a research group of IBBT, the Interdisciplinary institute for BroadBand Technology. IBBT is an internationally recognized multidisciplinary ICT research centre (looking at technological, legal, business and sociological aspects) and enables accelerated development and exploitation of new ICT products and services in strategic sectors in Flanders.

IBCN currently counts around 100 members, including 8 professors and 7 post-docs. The group has participated in numerous ACTS and IST projects and is currently involved in several European IST FP6 projects. IBCN is frequently partnering with local ICT industry on a wide range of research and development topics. The IBCN group also takes part in national and Flemish research programs. The research has resulted in over 30 PhDs and more than 550 publications in international journals and conference proceedings.

The IBCN group is largely responsible for the education in networking and software engineering in the Faculty of Engineering of the Ghent University.

IBCN's current research scope extends from networks to applications. One of the key research topics is on complex network architectures and protocols. This includes Fixed Multilayer Networks (access/metro/core), Home Networks, Grid Computing, Virtual Private Ad-Hoc Networks (VPANs) and Personal Networks. Considered technologies cover IP/(G)MPLS/Ethernet/Optical, Optical packet, burst and circuit switching, Carrier grade, ...

## Tasks within BONE

WP00	General Project Management
WP01	Dissemination of Project Results via different channels (concertation meetings, workshops, conferences,
	etc.)
WP12	Study on bandwidth-greedy applications and business models.
WP13	Design and performance evaluation of dynamic bandwidth allocation algorithms for EPONs and study on
	hybrid optical-wireless networks
WP14	Study on optical switching systems to realise hybrid (circuit/packet) optical network solutions
WP21	Co-leading the WP, joint research on virtualization of resources
WP23	Study on RF solutions to provide broadband on trains, combined with Radio-over-Fiber techniques
WP26	Identifying possible electricity consumption reductions by cross-layer optimization (when compared to
	multi-layer networking)

## Key personnel

**Piet Demeester** is professor at the Ghent University - IBBT where he is involved in research on communication networks. His current interests are related to broadband communication networks (IP, G-MPLS, optical packet and burst switching, access and residential, active, mobile, CDN, grid) and include network planning, network and service management, telecom software, internetworking, network protocols for QoS support, etc. He published over 400 journal or conference papers in this field.

**Mario Pickavet** is professor at Ghent University – IBBT. His research interests are related to broadband communication networks (i.e., IP, MPLS, WDM, SDH, ATM) and include resilience mechanisms, design, and long-term planning of core and access networks. He published over 150 international journal or conference papers in this field. Together with Jean-Philippe Vasseur (Cisco) and Piet Demeester (Ghent University), he published the book Network Recovery book in the Morgan Kaufmann series in networking.

**Peter Van Daele** is professor at Ghent University – IBBT and IMEC. His research interests are related to broadband communications and optical communications. He published over 250 international journal or conference papers in this field. Peter Van Daele has been and still is involved in several RACE, ACTS, ESPRIT, FP5 and FP6-projects. He has acted as project coordinator for several projects, including the recently finished FP6 Coordination Action "BREAD" (BroadBand in Europe for All: a Multidisciplinary Approach").