



KEY TECHNOLOGIES

Images, and Information and Communication Technologies - computerised methods, electronic devices, and impact on humans

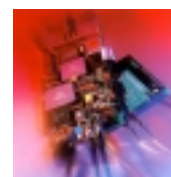
The research unfolding in the Basse Normandie region involves the entire electronic information processing chain, addressing both the development of new technologies and the uses they generate in corporate operations and private lives. The topics of excellence are as follows:

- ▶ **Sensors and Instrumentation** - They can create interfaces between the real world and the digital world: high specificity and performance sensors and instrumentation (optical and nuclear applications, superconductors, software, and so on); automatic, and system control equipment
- ▶ **Image processing and analysis:** Acquisition, pre-processing, analysis and interpretation, and quantitative measurements. Processed images, especially in biomedicine and materials, stem from very different origins
- ▶ **Security and data transmission:** Encryption, error correction, document compression, constraint satisfaction for decision support, and compliance check of software specifications
- ▶ **Man-Machine Interaction:** Improves user-machine interaction procedures, making them more comfortable or ergonomic, easier, and more efficient: electronic documents, automatic language processing, psychological studies on the ergonomics of software and documents, and virtual reality
- ▶ **The Impact of Information and Communication Technologies on Humans:** The contribution of networked work techniques on individual and group behaviour, study of how information and communication technologies alter territories, lifestyles, and organisations

SPECIAL EQUIPMENT

The teams work with advanced, high-standard equipment and facilities:

- ▶ Technological and measuring equipment for modelling, engineering, and characterising high-tech sensors and instruments
- ▶ A wide array of image acquisition devices: optic and electronic microscopy, MRI, PET, and more
- ▶ Man-Machine Interaction testing facilities: eye-tracking equipment (the eyeputer), observation and recording room of computer workstations, virtual reality work-kit
- ▶ Computing facilities and computer networks



TEAMS

Fourteen laboratories and public research centres work with a full-time staff of 110 (teacher-researchers, research scientists, and technicians) and 135 doctoral candidates working in Images, and Information and Communications Technologies.

Far-reaching experience in interdisciplinary joint work brings together computer scientists and engineers, electronics specialists, physicists and chemists, mathematicians, linguists, psychologists, geographers, physicians and biologists, and more, depending on the relevant field. Accordingly, all the complex facets of actual issues can be addressed. The GREYC (Groupe de Recherche en Informatique, Image et Instrumentation de Caen, the Caen IT, image and instrumentation research group)- a joint Caen University and ISMRA laboratory (with support from CNRS) – is the organisational and promotional backbone of every scientific and technological enterprise.

Scientific output produces roughly 20 doctoral theses per year and more than 200 papers published in journals or given at international conferences. Several patents have also been filed.

The teams maintain partnerships with some thirty regional or nationwide companies (research contracts, corporate internship theses, advisory consulting, and more). Several spin-offs have been set up over the past three years.

METHODS, SKILLS AND EXPERTISE

The *Comité Régional pour l'Image et les Technologies de l'Information et de la Communication* (CRITIC, the regional committee for images, and information and communications technologies) co-ordinates all the operations for training, research, and technology transfer. It fosters relations between academic and corporate teams. The CRITIC brings together the prime movers in academia, industry and institutions who are promoting development in this field.

The CRITIC is spearheaded by a team of one corporate officer and an academic: *President*: Philippe GUETIN (Philips Composants)

Laboratory Co-ordinator : Professor Patrice ENJALBERT (Caen University)



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For further information...

Browse our website to find out all about the many opportunities in Normandy : <http://www.normandydev.com>
 or send an email to: ndcaen@normandydev.com or ndrouen@normandydev.com

SPECIAL FUNDING

The activities pertaining to the different topics are eligible for *Appels à Projet de Recherche Appliquée* (requests for proposals in applied research), for projects partnering companies and public research laboratories. The first request for proposals was issued in 1999: 7 out of 20 projects were selected for funding aid amounting to 502,000 euros. Another request for proposals was issued in January 2001: 12 projects were selected for a total amount of roughly 605,000 euros. Two similar requests for proposals will be issued in 2003 and 2005.

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SUPPORT TO BUSINESS SET UP PROJECTS

The Basse Normandie Region has rolled out all its resources to support business projects in the following areas:

- ▶ *General funding*
- ▶ *Business project support*
- ▶ *Project follow-up*
- ▶ *Corporate user services at operations site*
- ▶ *Technology transfer to companies*

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