



## **New technologies to help people with visual disabilities to move freely: Issues, innovations and prospects**

**Seminar organised by the Institut pour la ville en mouvement (City on the Move)  
in partnership with the Cité des Sciences et de l'Industrie is on 24 November 2003**

Cité des Sciences et de l'industrie, salle Jean Bertin  
30, avenue Corentin Cariou-75019 Paris, France

Two years ago, City on the Move (IVM) in partnership with the Cité des Sciences et de l'Industrie organised a conference to discuss different ways to help the blind and partially sighted to move freely, notably using the new technologies.

Following this event, IVM undertook a number of initiatives:

Homère, a route recognition prototype developed in partnership with the AEC and presented at the Cité des Sciences et de l'Industrie in May 2002, as part of the Braillet and Technologies Conference.

A survey on blind and partially sighted access to tourist (PIDF, Regional Tourism Committee and Pariscope) and transport (SNCF, RATP) websites, involving analysis of the Amrosites and the difficulties experienced in obtaining information.

Designing additional tactile aids, notably a prototype relief map of transport networks in the Ile-de-France Region and a prototype district relief map to be placed in the Porte de la Villette, Porte de Pantin and Basilique Saint-Denis metro stations. A steering committee was set up to carry through this project in partnership with the RATP railway network.

Today, IVM would like to meet the stakeholders and specialists in this field once again, in order to look at the progress made in recent years and the potential of the various new approaches and technologies. It is therefore organising another seminar with the Cité des Sciences et de l'Industrie to present and discuss the prospects afforded by the different technologies in helping people with visual disabilities detect obstacles, find their way around, orientate themselves geographically and plan journeys in the city. Companies involved in developing such instruments, researchers, professionals, experts and the different stakeholders are invited to take part in these discussions.

The technological approach will be illustrated by examples taken from the different categories of need: orientation, obstacle detection, route recognition and technology support.

**9 AM: Check-in**

**9:30 Introduction**

François Ascher,  
Professor of Town Planning at the French Town Planning Institute,  
Chairman of IVM's Scientific and Steering Committee.

**9:45 Theme 1: ORIENTATION**

**Situating oneself and determining one's position in the environment.**

Speaker: Hoëlle Corvest,  
Responsible for visual impairment issues at the Paris Cité des Sciences et de l'Industrie.

**9:50 Trekker, GPS direction finding system for the blind.**

**Lucia Gomez, Visuaide, Quebec.**

Trekker is a software application that runs on palmtop computers (PDA) adapted for people with visual disabilities and offering talking menus and maps, together with GPS information.

**10:10 Adapting mobile phones, technical and practical trends.**

**Philippe Balin, Telecoms Engineer, member of the Radiocommunication Consultative Committee of the Telecom Regulation Agency, France.**

**10:30 Plenary discussion**

**10:50 Break**

**11:05 Theme 2: OBSTACLE DETECTION**

**Identifying potential dangers in public places; bollards, posts, signposts, etc....**

Speaker: Gérard Uzan,  
Ergonomics researcher, Computer Ergonomics Laboratory at University Paris V

**11:10 VAS, virtual auditory space, development of glasses for "hearing images"**

**Jose Luis Gonzales Mora, Canaries Astrophysics Institute, Spain.**

The brain is capable of "seeing" sounds: the Virtual Auditory Space (VAS) research project is based on this property. We become able to perceive the space around us by means of sounds.

**11:30 Radar cap - radar pendant**

**Dominique Icart, Bestpluton Company, France.**

Talking obstacle detection radar system with forward and vertical detection and possibility of talking GPS, compass and light detection options.

**11:50 Télétact – the laser stick**

**René Farcy, Aimé Cotton Laboratory, France.**

Mobility aid system which uses three sensory capacities: hearing, touch and proprio-kinaesthetic feedback (effort feedback).

**12:10 Plenary discussion**

**12:30 Lunch,**

**Device testing**

**13:30 Theme 3: ROUTE RECOGNITION**

**Memorising an itinerary, recognising and planning a journey.**

Speaker: Raymond Fournier,

Head of the MMI, VR and Robotics programme, AEC, Atomic

**14:35 HOMERE - Haptic system operating on a virtual model  
to explore and recognise the environment**

**Pascal Mobuchon, Ondim Company, France**

HOMERE uses the new virtual reality technologies for a system that allows the blind and partially sighted to plan journeys and pre-simulate situations in urban areas.

**14:55 Plenary discussion**

**15:10 Theme 4: HUMAN ASSISTANCE AND TECHNICAL OBJECTS.**

**Technical device requiring human assistance**

Speaker: Denis Chêne

Ergonomist, cognitive psychology, Head of Disabilities Section, R&D France Télécom, France.

**15:15 Visio-phone for remote assistance to the blind and partially sighted.**

**Magne Lunde, MedialT, Norway.**

A telephone is connected to a video device remotely controlled by a sighted person. Blind or partially sighted users can use a cellphone to contact an operator who uses the remote video image to provide information on the caller's environment.

**15:35 Analysis of the requirements of a visio-assistance device for the blind**

Bertrand Le Breton, ergonomist, R&D France Télécom, France

**15:55 Plenary discussion**

**16:15 ROUND TABLE, “The innovation highway, matching technologies to human needs”**

Led by: François Ascher

With:

Hoëlle Corvest, Responsible for visual impairment issues at the Paris Cité des Sciences et de l’Industrie.

Philippe Aymond, locomotion instructor, APAM, Association for the Blind and Partially Sighted.

Gérard Uzan, Ergonomics Researcher, Laboratory of Computer Ergonomics at University Paris V.

Raymond Fournier, Head of the MMI, VR and Robotics programme, AEC, Atomic Energy Commission.

Nadine Vigouroux, Informatics Research Institute, Toulouse

**17:30 Conclusion**

**Catherine Bachelier, Ministerial Delegate for Accessibility**

**Ministry for Equipment, Transport, Housing, Tourism and the Sea**

**18:00 End**

There is no charge for taking part but registration is compulsory.  
For all information, please contact Anne Dupont, Project Organiser:  
e-mail : [aem.dupont@wanadoo.fr](mailto:aem.dupont@wanadoo.fr)