



ICT ASIA FRANCE



CITYHOME

ICT-ASIA Project
Kickoff Meeting

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Blaise Pascal University
Clermont-Ferrand, France



China



Korea



Japan



Singapore



Philippe
Martinet



CityHome: Kickoff meeting
An ICT-ASIA project
Conference Center, Room 402, Kobe, Japan, May 13th, 9:30-16:00

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Projects selected in 2008:

Five proposals have been selected among the 22 proposals which were received for the 5th call for proposals of the ICT-Asia programme.

CITYHOME: From cybertransportation to mobile service robot

Lasmea (CNRS, Universite Blaise Pascal, Sungkyunkwan University (Korea), Kumamoto University (Japan), Nanyang Technological University (Singapore), Shanghai Jiao Tong University (China)

I-CROSS: Impromptu, context aware and trustworthy service provision in heterogeneous and unfamiliar spaces

Institut Telecom, NICT (Japan), NECTEC (Thailand), Northwestern Polytechnic University (China)

ISSUE: Integrated spatial decision support systems for urban emergencies

IRD, Vietnamese Academy of Science and Technology and IOIT (Vietnam), LIAMA (China), Kyoto University (Japan)

Information Spreading in a System of Mobile Agents

CEA, Indian Institute of Technology Kharagpur (India), Tohoku Gakuin University (Japan)

IMAGERLERISK: Very high resolution satellite imaging for the evaluation of geological risks (volcanos, landslides)

in Indonesia *Universite Blaise Pascal, National University of Singapore (Singapore), Directorate of Volcanology and Geological Hazard Mitigation (Indonesia), Philippine Institute of Volcanology and Seismology and National Institute of Geological Sciences, University of the Philippines (Philippines)*



Partners

Project coordinators : P. Martinet and C. Laugier

	Universities	Laboratories	Contact	Email
FRANCE	Blaise Pascal	LASMEA	Pr P. Martinet	martinet@lasmea.univ-bpclermont.fr
	Compiègne Tehnological	HEUDIASYC	Pr P. Bonnifait	philippe.bonnifait@hds.utc.fr
	INRIA	INRIA-Emotion INRIA-IMARA	DR C. Laugier DR M. Parent	Christian.Laugier@inrialpes.fr michel.parent@inria.fr
ASIA	Shanghai Jiao Tong	Intelligent Vehicles group	A.P. M. YANG	MingYANG@sjtu.edu.cn
	Kumamoto	Uchimura&Hu	A.P. Z. Hu	hu@cs.kumamoto-u.ac.jp
	Sunkyungkwan	ISRC	Pr S. Lee	lsh@ece.skku.ac.kr
	Nanyang Technological	NTU-CIM NTU-C2I	Pr D. Wang Pr M. Pasquier	EDWWANG@ntu.edu.sg asmbpasquier@ntu.edu.sg



Partners

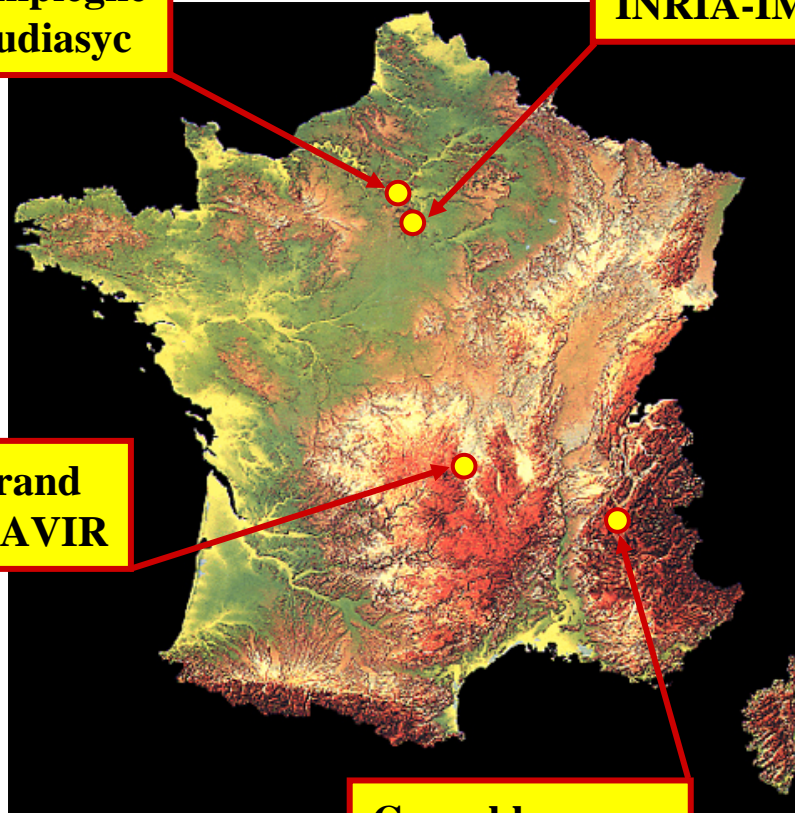
Project coordinators :
P. Martinet and C. Laugier

Compiègne
Heudiasyc

Paris, Rocquencourt
INRIA-IMARA

Clermont-Ferrand
LASMEA-GRAVIR

Grenoble
INRIA-Emotion





Partners

Project coordinators :
P. Martinet and C. Laugier

Suwon, Korea
ISRC-SKKU

Shanghai, China
SJTU

Kumamoto, Kyushu, Japan
Kumamoto university

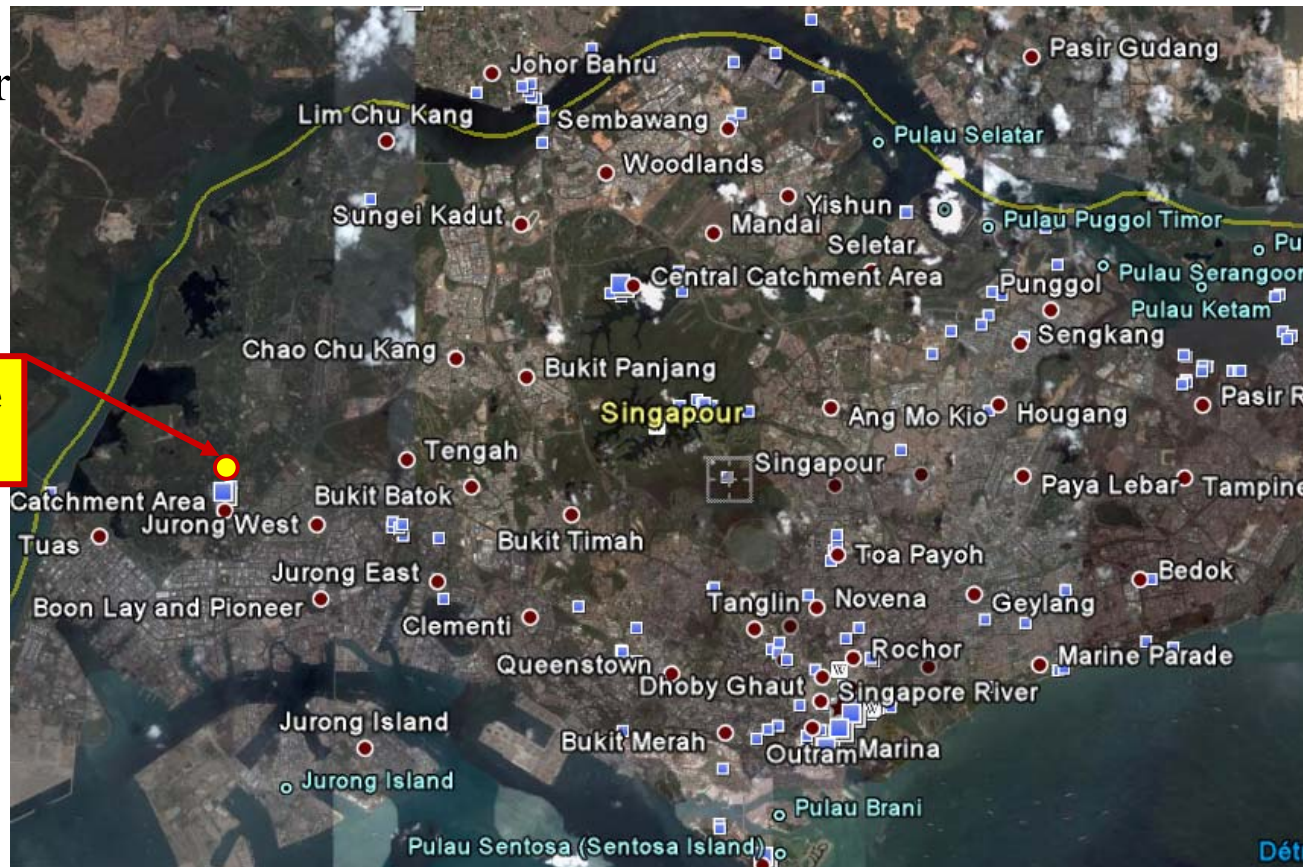




Partners

Project coordinators :
P. Martinet and C. Laugier

Singapore
NTU





Previous Fact project

ICT-ASIA FACT(06-07)

ICT ASIA FRANCE



China



Korea



Japan



NANYANG
TECHNOLOGICAL
UNIVERSITY

Singapore



France: INRIA Rhône-Alpes (Christian Laugier)

INRIA Rocquencourt (Michel Parent)

LASMEA Clermont-Ferrand - CNRS (Philippe Martinet)

New partner in 2007: UTC Compiègne - CNRS (Philippe Bonnifait)

Korea: ISRC (Sukhan Lee)

China: Shanghai Jiao Tong University (SJTU) (RuQing Yang & Ming Yang)

Singapore : CIM Lab (Danwei Wang), C2I Lab (Michel Pasquier)

Japan: ITS Lab (Katsushi Ikeuchi), RACE Lab (Hajime Asama)

	MAEE	CNRS	INRIA	Total
Year 1	37	10	10	57k€
Year 2	37	10	10	57k€



Previous Fact project

Tasks T1 & T2 : *Scenarios and technologies selection (all partners)*

Task T3 : *Driver modeling (NTU, ISRC, TokyoU)*

Task T4 : *Image based world understanding (ISRC, Lasmea, NTU)*

Task T5 : *Vision based navigation (Lasmea, Inria Rocq)*

Task T6 : *Autonomous navigation (Inria RA, ISRC, NTU, TokyoU)*

Task T7 : *Sensor based control (SJTU, Lasmea, ISRC)*

Task T8 : *Communication & Cooperative driving (Inria Rocq, SJTU, TokyoU)*

Task T9 : *Mixed-reality & 3D maps (TokyoU, ISRC)*

Kick-off + IV	2006	Tokyo – Ikeuchi Lab
IROS-FACT	2006	China, Beijing
FACT workshop	2007	China, Shanghai - SJTU
IROS- PPNIV	2007	USA, San-Diego

Book - Star	C. Laugier and R. Chatila
IJVAS	D. Wang, S.G. Shuzhi, C. Laugier
ITS	C. Laugier, U. Nunes

+ many exchanges (stay&visits)

+ many conference & journal papers



Description

CITYHOME will be focused on Cyber transportation in cities environment and mobile service robotic in home, more generally human friendly, environment. In such context, new problems coming from mobility (safety, integrity, adaptability), from context environment (encumbered, dynamic, cooperative, environment awareness and learning) and extension in the fields of communication, multi-robot cooperation, human interaction ... will represent the set of scientific objectives of the project CITYHOME. Help, assist human being or make easier some daily task will be the targeted applications.

Main applications will be not limited to autonomous personal public transportation (in campuses, airports, shopping malls, inner cities) but will be extended to open area (golf court, ZOO, green spaces...), to home and hospital environment for assistant mobile robot... to give a set of already identified applications and environment description.

Main objectives are to advance the state-of-the-art technologies of a mobile robot evolving different context using the same elementary functionalities. International collaboration will allow to enlarge the spectrum both of application and scientific issues.

Rapid growth of information, communication technologies and new research results are part of the context which is in constant evolution. Use of electrical technology instead of Gaz engine is a warantee of respecting the environment, and also to be accepted in such environment like home and hospital.



Sub-tasks

The project will start by a Kickoff meeting (first step) aiming at:

- **Task T1 : selecting mobile service tasks to be investigated (service robotic and cyber transportation)**
- **Task T2 : giving a description of possible technologies developed by the partners**

The second step of the program concerns the collaboration actions for studying and developing the technologies for the selected scenarios:

- **Task T3 : Ontology of Mobile service robots and cyber transportation system (Managed by ISRC, Korea)**
- **Task T4 : Human interaction and knowledge based behaviors (Managed by NTU-C2I, Singapore)**
- **Task T5 : Environment modelling and understanding (Managed by Kumamoto University, Japan)**
- **Task T6 : New AGV models for control (Managed by NTU-CIM, Singapore)**
- **Task T7 : Integrity and safety (Managed by Heudiasyc, France)**
- **Task T8 : Vision based navigation techniques (Managed by LASMEA, France)**
- **Task T9 : Motion planning and SLAM (Managed by INRIA-Rhône-Alpes, France)**
- **Task T10 : Communication techniques (Managed by STJU, China)**
- **Task T11 : Multi robot cooperation (managed by INRIA Rocquencourt, France)**



Sub-tasks mangement

- **Task Coordinator responsibility :**

- ✓ *Coordination of the related research work*
- ✓ *Promoting exchanges between the involved partners*
- ✓ *Pushing for common papers*
- ✓ *Coordinating the writing of related reports*



Sub-tasks mangement

Management of tasks:

Leader	T1	T2	T3
Institution	all	all	ISRC
Name			

Leader	T4	T5	T6
Institution	NTU-C2I	Kumamoto	NTU-CIM
Name			D. Wang

Leader	T7	T8	T9
Institution	Heudiasyc	LASMEA	INRIA Emotion
Name	P. Bonnifait		

Leader	T10	T11
Institution	SJTU	INRIA-Imara
Name		



Sub-tasks distribution

Possible partners participation can be the following :

Partner	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
LASMEA	X	X	X		X	X	X	X	X		X
Emotion	X	X		X	X		X		X		
Imara	X	X								X	X
Heudisayc	X	X			X		X		X		
ISRC	X	X	X		X			X	X		
Kumamoto	X	X			X		X				X
SJTU	X	X				X				X	X
NTU-CIM	X	X				X		X	X		
NTU-C2I	X	X		X							



List of actions (already done 2008/09)

PPNIV-IROS	2008	Nice, France
MEPPC-IROS	2008	Nice, France
RNM-ICARCV	2008	Hanoi, Vietnam
Kickoff + ICRA	2009	Kobe, Japan
SNODE-ICRA	2009	Kobe, Japan
PPNIV-IROS	2009	St Louis, USA

JISR	D. Wang, P. Martinet, K. Iagnemma

Exchange :

February 2009 : S. Lee (visiting professor in LASMEA 1 month)

4th June 2009 : S. Lee will be honored as Blaise Pascal Doctor Honauris Causa
3 months visiting researcher open in Service Robotics (S. Lee)

Visits :

October 2008: P. Martinet has visited ISRC

March 2009: Pr Hu has visited SJTU

April 2009: 2 Researchers from INRIA have visited SJTU

May 2009: R. Chapuis has been welcome in Kumamoto university



Budget repartition (proposal)

Proposal

	MAEE	CNRS	INRIA	Other	Total
Year 1	38	10	10	10	68k€
Year 2	38	10	10	10	68k€

	Proposal
SJTU	12720
ISRC	19720
KUMAMOTO	12720
NTU-CIM&C2I	19720
LASMEA	24200
HEUDIASYC	14720
INRIA-Emotion	17920
INRIA-Imara	14720



List of actions (proposal)

Demos

- 2009: Demo in PAVIN French site for Cyber transportation (France)
- 2010: Demo World Expo 2010 Shanghai (China) (SJTU)
- 2011: Demo on Mobile Service robot in Korea (ISRC)

Collaborations between partners

SJTU&INRIA

NTU&INRIA

NTU&LASMEA

Kumamoto&LASMEA

ISRC&LASMEA

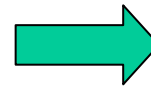
....



Budget

Proposal

	MAEE	CNRS	INRIA	Other	Total
Year 1	38	10	10	10	68k€
Year 2	38	10	10	10	68k€



Allocated

	MAEE	CNRS	INRIA	Total
Year 1	9	10	10	29k€
Year 2	??	10	10	??k€

	Proposal	Allocated
SJTU	12720	???
ISRC	19720	???
KUMAMOTO	12720	???
NTU-CIM&C2I	19720	???
LASMEA	24200	???
HEUDIASYC	14720	???
INRIA-Emotion	17920	???
INRIA-Imara	14720	???

IMPOSSIBLE



Sub-tasks (to be discussed)

The project will start by a Kickoff meeting (first step) aiming at:

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- Task T11 : Multi robot cooperation (managed by INRIA Rocquencourt, France)



List of selected actions (to be discussed)

Potential visits:

2009: LASMEA/NTU, LASMEA/ISRC, all/LASMEA

2010:

Potentials collaboration:

2009:

2010:

Potential common action:

2009: Demo PAVIN + workshop in France LASMEA
Proposal for a novel Project ANR France-Japan

2010: