

# IMAGINATION TO REALITY

## INSTITUTE FOR INFOCOMM RESEARCH (I<sup>2</sup>R)



The Institute for Infocomm Research (I<sup>2</sup>R) is a member of the Agency for Science, Technology and Research (A\*STAR) family. Established in 2002, our mission is to be the globally preferred source of innovations in 'Interactive Secured Information, Content and Services Anytime Anywhere' through research by passionate people dedicated to Singapore's economic success.

I<sup>2</sup>R performs R&D in information, communications and media (ICM) technologies to develop holistic solutions across the ICM value chain. Our research capabilities are in information technology, wireless and optical communication networks, interactive and digital media, signal processing and computing. We seek to be the infocomm and media value creator that keeps Singapore ahead.



### *Our Vision:*

*The Infocomm and Media value creator that keeps Singapore ahead.*

### *Our Mission:*

*To be the globally preferred source of innovations in 'Interactive Secured Information, Content and Services Anytime Anywhere', through research by passionate people dedicated to Singapore's economic success.*

Our research expertise is organised into 10 departments and six programmes:

### The Departments are:

- Computer Graphics & Interface
- Computer Vision & Image Understanding
- Cryptography & Security
- Data Mining
- Embedded Systems
- Human Language Technology
- Modulation & Coding
- Networking Protocols
- RF & Optical
- Signal Processing

### The Programmes are:

- Integrated COmmunications Network @ Home (ICON@Home)
- Intelligent Systems for Personalized and Connected Healthcare (INSPECH)
- Interactive Social Tele-Experience (InSITE)
- Multimodal Engagement ThRu Immersive eXperience (METRIX)
- Student Centric Optimal Learning with Augmented Reality (SCOLAR)
- Sustainable Mobility for intelligent Transportation (PEGASUS)

### o Joint Laboratories

- Image & Pervasive Access Lab (IPAL)
- Singapore Advanced Imaging Lab for Ocular Research (Sailor)

### Infrastructure Available

- Anechoic chamber
- Audio lab
- Communications/Network/Optical test equipment
- Wireless and advanced network testbeds

### Examples of Mature Technologies

- Content Understanding in Sport Videos
- Cryptographic Based Media Security
- Fiber Optic Gas Sensor
- Fingerprint Matching On Smart Card
- H.264/AVC/MPEG 4 part 10 Video Codec
- IEEE 802.11n MIMO-OFDM Wireless LAN
- Intelligent Video Surveillance
- MPEG 4 Scalable to Lossless (SLS) Audio Coding
- Multilingual Speech, Speaker & Language Recognition
- Radio Frequency Identification
- UWB-communications based Localization
- Voice Data Mining
- High Data Rate UWB Wireless Personal Area Network
- High Speed, Low-Cost, Temperature-independent Fiber Bragg Grating sensor system



*Brainy Computer Interface (BCI) Research*

### Collaboration Models

- Joint research and development collaboration
- Technology licensing
- Secondment of staff to industry for one to two years under the T-Up scheme
- R&D consultation services provided include feasibility studies, performance studies, modeling, analysis, simulation etc

### Patents & Publications

For Financial Year 2003 to 2009 (please visit our website for details)

- Total patents filed: 299; Patents granted: 164
- Research publications: 3772 (international journals/conference proceedings)

### Special Achievements

- Singapore Youth Award 2009
- Nokia Visiting Professor of the year 2009
- Technology Review (TR35) Award 2008
- Net-atHome 2007 Award
- National Technology Award - 2007, 2001, 1996
- IES Prestigious Engineering Achievement Award – 2009, 2008, 2007, 2006, 2005
- Red Hat Certified Engineer of the Year 2007
- Tan Kah Kee Young Inventors' Award (Open Category) – 2010, 2007, 2006, 2005, 2004, 2003
- TEC Innovator Award 2006, 2004, 2003, 2002
- Microsoft Fellowship Award 2005
- FEER Asian Innovation Gold Award 2003

### Contact Us

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