**SUMITOMO ELECTRIC NETWORKS**

NETS
make life great

V-one
MULTIMEDIA

REACH IT

NTT

INTRiMEDIA

servTouch

Institute for
Infocomm Research
A★STAR

## MEDIA RELEASE

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## I²R signs MOU with local SMEs and multinational organisations to collaborate on Interactive TV technologies

## Multinational organisations include NTT, SUMITOMO

**Singapore, 1 October 2010** – A\*STAR's Institute for Infocomm Research (I²R) signed a **Memorandum of Understanding** today with leading global and local industry partners such as Sumitomo Electric Networks, Nippon Telegraph And Telephone Corporation, Network For Electronic Transfers (Singapore) Pte Ltd and a few small and medium enterprises to jointly explore and collaborate on a research consortium on **Interactive TV** technologies.

I²R will work with the various parties cited in the MOU by leveraging on the successes built from I²R's NextGen TV and the current Interactive Social Tele-experience (InSITE) research programmes. (More information in APPENDIX A).

This collaboration aims to bring new user experiences for the TV viewers facilitated by the availability of high bandwidth made possible by the Next Generation National Broadband Network (NGNBN). It will provide better interactivity and personalisation that is integrated into the TV content to more effectively engage viewers beyond what the current terrestrial and cable TV broadcasts are capable of. These result in technology proof-of-concepts which would then be trial-tested at the fiber-based high-speed broadband network at Fusionopolis. Once successful,

the trials can then be extended to selected home areas around the One-North area and eventually, be deployed on the NGNBN.

The MOU's overall objectives would be:

- To form an eco-system across the Interactive Television (ITV) value chain to facilitate collaboration
- To pool R&D resources and leverage on the intellectual property rights among members to develop new products and services
- To develop and train manpower in the new ITV domain and related standards
- To engage companies to generate innovative products, applications and services that meets the new user needs for ITV on the Next Generation National Broadband Network (NGNBN)

The potential users who will benefit most from I$^2$R's technologies include

i.  Member companies as they are able to develop, evaluate and commercially introduce new products and services rapidly based on the technologies developed in the consortium and tapping on the expertise in I$^2$R and other collaborating companies, thereby reducing the time to market and the overall cost and risk

ii.  The application and service providers - who would be able to readily build, prototype and deploy interactive TV applications by incorporating I$^2$R's technologies; and be able to provide personalized services to their TV viewers based on the viewers' desired preferences and past consumption patterns.  These would enable the application and service providers to be able to effectively monetize their content

iii.  End-consumers or TV viewers – who would be able to engage in a more interactive and personalized experience by accessing their desired content – anytime, anywhere.

Sumitomo Electric Networks, Inc Mr. Hiroaki Nishimoto, Director said: *"Based on our network equipment technologies business nurtured over 20 years and rich experience in developing and mass production of high quality stable Full HD IPTV*

*STB, Sumitomo Electric Networks would like to contribute to launching world-class competitive Interactive-TV service with customer satisfaction over NGNBN here in Singapore"*

Nippon Telegraph And Telephone Corporation, Jay Kishigami, Vice President, NTT Corporation and Director, NTT Cyber Solutions Lab said, *"The timing of this consortium is perfect since it is keenly focused on facilitating the collaborative interworking of several value chains to activate a new market that will provide value added service to the customer."*

Network For Electronic Transfers (Singapore) Pte Ltd, Ms Poh Mui Hoon, Chief Executive Officer said: *"NETS is delighted to partner with A\*STAR and partners in working together to develop an open video delivery platform with financial payment capabilities that supports the Singapore government's aim of facilitating a vibrant ecosystem for interactive multimedia, applications and services.*

*"This partnership draws together companies recognized globally for their expertise in electronics, electronic payments and Interactive TV technologies, and which, we are confident, will produce an innovative range of products/services in time to meet the industry's needs."*

ServTouch-Wywy (S) Pte Ltd, Mr. Kelvin Tan, Vice President – New Media said: *"With the advent of cloud computing and high definition content creation, we believe the work of this consortium will strengthen our determination to become an important local and then regional player for interactive TV. Our present connections with the key contents players have been very encouraging in blazing the trail for Singapore to become a hub of innovation for New Media success!"*

Professor Lye Kin Mun, Acting Executive Director said, *"This collaboration marks a great milestone for local research that puts the efforts gleaned from research and development for IPTV with industry players to be implemented into working concepts. $I^2R$ is pleased to form this consortium that forges alliances with the current industry movers and shakers in this next generation of interactive TV."*

The other quotes can be found at APPPENDIX A.

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**Background**

**About Sumitomo Electric Networks, Inc.**

Sumitomo Electric Networks, Inc. is a leading supplier of broadband access and IPTV equipment, and its major product lines include ADSL, VDSL, GE-PON (Gigabit Ethernet Passive Optical Network), VoIP (Voice Over IP), HGW(Home Gateway), PLC(Power Line Communication) and IP-STB products to cover a variety of broadband access services and applications.

For more information, visit the following URLs.
http://www.sei-networks.com/index_E.html
http://www.streamcruiser.com/index_E.html

**About Nippon Telegraph And Telephone Corporation**

NTT Cyber Solutions Laboratories have been carrying out research to realize services that offer world-leading Quality of Experience (QoE), pursing the information retrieval service that meets the needs of each user, and also other user-oriented services that enable people to more comfortably perform various actions at the office and at home.

The "QoE" concept should be essential in providing true user-oriented services. Higher QoE will be required from the various services to be provided in the Next Generation Network-based information society.

NTT Cyber Solutions Laboratories also believe those services should be designed with the needs, in the broadest sense, of the users in mind.

The information retrieval service that meets each user's needs is strongly desired to allow users to access the vast amount of information more easily; it must support the continued divergence in people's values and lifestyles.

Both data processing and LifeLog processing/appliances are core technologies to achieve the user-oriented "Personalized retrieval and communication service" in the near future with user-friendly design and  also world-leading QoE that will provide easier access to the network through home electric appliances at home.

**About Network For Electronic Transfers (S) Pte Ltd**

NETS (Network For Electronic Transfers Singapore Pte Ltd) was founded in 1985 to operate and manage an online debit payment service pioneering Singapore's shift to a cashless society. It has since grown to a multi-service organisation, providing a comprehensive range of electronic payment services.

Based in Singapore, NETS is relentlessly developing new payment solutions as it aims to be the preferred world-class solutions provider for payment and processing services, accepting multi-media and multi-channel transactions on behalf of companies, institutions and individuals worldwide. With a growing range of payment services that works seamlessly across mobile, wireless and physical arenas, NETS is poised to become the integrated payment gateway for Asia.

Find more information on NETS and its payment services at http://www.nets.com.sg.

## About Intrimedia Pte Ltd

INTRIMEDIA is a Singapore based company that specializes in the development of interactive media solutions on IPTV, mobile devices and the internet. The company is well positioned to take advantage of the emerging service delivery platforms such as Smartphone and IPTV. Our core domain expertise includes Android, iPhone and Windows Phone7 development covering both front-end (client side) and backend application solutions.

Our services include helping companies and businesses to develop new services and solutions, re-engineering and customizing their existing systems to allowing them to reach out not only to existing customers but also to gain new customers, taking advantage of the new service delivery platforms – Smartphone and IPTV. For enquiry on our services, please email enquiry@intrimedia.com.

## About Reachfield IT Solutions Pte Ltd

Reachfield IT Solutions Pte Ltd, a fast growing e-Solutions provider, develops and provides leading-edge e-business solutions for customized web-based applications. We aim to be the leading provider of component based solutions to organisations, enabling them to meet the challenges of fast moving business needs through the use of highly customizable, intuitive, responsive and user friendly software business components without corresponding high investment in Information Technology.

At Reachfield, our commitment is to build value-centric solutions incorporating state of the art technologies that help you to bring your business to the marketplace at the quickest time. Designed from the ground up to embrace continuous change in the Internet arena, we

have built a robust and extensible component framework that enables you to economize on application development cost and time, to compete and leapfrog your competitions at Internet speed.

**About ServTouch-Wywy (S) Pte Ltd**

ServTouch-Wywy is in the business of digital asset management and print/image equipment solutions. The New Media division drives our Kodak Singapore photo media businesses, an on-line personalized gifting and ordering portal and the growing IPTV engagements in the media space. We are involved with new media initiatives with MDA Co-Space program, IDA NIMS, government agencies and educational institutions.

With the fast-paced IPTV developments, we have developed a Content Delivery Network for video streaming and hosting on a Cloud Computing platform and also distribute a leading edge Over-The-Top media box. To encourage more local contents, we have our in-house content pre/post production teams working closely with events, training and education organizations.

**About SyQic Capital Pte Ltd**

SyQic is the owner and operator of YOONIC™, an IPTV platform capable of delivering live streaming programmes, Video-On-Demand and rich interactive media through broadband within a country's existing broadband infrastructure via a variety of consumer devices including our OTT Set-Top Box (STB).

Established in 2004 and in the process of setting up its HQ in Singapore, SyQic has offices in Malaysia, the Philippines, Indonesia and China. SyQic's R&D centres are located in Singapore, Beijing (China) and Kuala Lumpur (Malaysia).

Through its multiple landings in the region, SyQic will be creating a comprehensive business ecosystem that links Consumers, Content Providers, Content Distributors and Advertisers in a mutually beneficial environment optimized for the monetization of their assets. SyQic is removing the barriers for the flow of content and working towards a vision of seamless content delivery designed to reach the consumers - whenever, wherever and however - while maintaining the integrity of all the stakeholders' rights.

SyQic secured its first commercial deployment in Dec 2008 with TMNet, a subsidiary of Telekom Malaysia, under the brand name Hypp.TV. This was followed by the launch of PLDT's my DSL Watchpad in October 2009 in the Philippines.

SyQic's capabilities are underlined by their collaboration with world renowned companies such as Huawei and the award of a commercialization grant by MDA. SyQic also has access to one of only three IPTV licenses available in Indonesia.

**About V One Multimedia Pte Ltd**

V One Multimedia has established its operation since 1997 with main focus on R&D development, manufacture and marketing of innovative Consumer and Industrial Digital Media, IP AV Home Automation Network, IP based Media Player, NxG HD/3D Digital Signage and NxG IPTV/OTT/DVB & IP Streaming products for the fast changing market place. We provide complete turnkey design from hardware, industrial design, firmware and applications up to backend server solutions for OEM/ODM, Service Provider and Telco customers. We have successful OEM customers including HP, Canon, Sony, Hitachi, Panasonic & Noxel in our portfolio.

At V One, our mission is to offer our clients cutting edge integrated solutions for the next generation digital media market, with high definition / 3D Video capability and High Fidelity Audio Visual products that delivers flexible IP based accessibility and superior performance.

## About Institute for Infocomm Research

The Institute for Infocomm Research (I²R - pronounced as i-squared-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.

I²R 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.  Website: www.i2r.a-star.edu.sg

**About the Agency for Science, Technology and Research (A*STAR)**

The Agency for Science, Technology and Research (A*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovation-driven Singapore. A*STAR oversees 14 biomedical  sciences, and physical sciences and engineering research institutes, and nine consortia & centre, which are located in Biopolis and Fusionopolis, as well as their immediate vicinity.

A*STAR supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry.  It also supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

For more information about A*STAR, please visit www.a-star.edu.sg

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## APPENDIX A

**Additional quotes**

Intrimedia Pte Ltd, Mr. Roland Yeo, Chief Executive Officer said: *"We are glad to be part of this alliance and we look forward to being a key contributor to this emerging service delivery platform."*

Reachfield IT Solutions Pte Ltd, Mr. Winson Wee, Vice President – Client Engagement said:

*"$I^2R$ is a great partner and this MOU exemplifies their dedication to collaborate with companies that share the digital entertainment lifestyle vision. With their strong core competency and in-depth technology knowledge, we are excited by the R&D collaboration with them. I strongly feel that there are huge opportunities for our solutions to reach to greater heights and to leapfrog ahead of our competitors."*

SyQic Capital Pte Ltd, Mr. Jamal Hassim, Chief Executive Officer said:

*"As a leading player in the Over The Top (OTT) IPTV space, SyQic is looking forward to bringing real life commercial perspectives to the technologies and products being developed within this new partnership championed by $I^2R$ allowing for quicker "go to market" implementation. SyQic is also hoping to be able to introduce the newly developed products and services into the numerous markets where it already has commercial landings. The exchange of ideas and collaboration of technologies between companies within this new Partnership will be especially useful to strengthen the offering of the Singapore SME's within the interactive digital media space."*

V One Multimedia Pte Ltd, Mr. Tan Thye Seng, Chief Executive Officer said: *"V One is taking on the challenge as a local entity to deploy digital media product in the area of NxG Digital Signage, NxG AV Home Automation as well as NxG IPTV/OTT/DVB Hybrid STB. We are pleased to have this opportunity to partner with A*STAR's $I^2R$ to develop NxG High Speed solutions to meet the NIMS over NGNBN, to support RSP needs as well to meet the needs of the worldwide Digital Media market migration into the future IP based connectivity."*

**About the Consortium**

The proposed Interactive TV Research Consortium would contain the following research areas:

a. Multimedia Content Processing

    i. Automated Content Understanding for Metadata Generation
    ii. Network Adapted Content Delivery
    iii. Multimedia Content Interactivity Framework
    iv. Content Metadata Format for Interactive Search and Retrieval
    v. Content based Advertising Framework & Format
    vi. Video trans-coding
    vii. Mixed reality

b. Infrastructure & System

    i. Home Networking and Automation on web services
    ii. Authentication mechanism and e-payment
    iii. System security and privacy protection
    iv. Network technologies for interactive applications (for both client-to-server and client-to-client) with secure messaging
    v. Seamless service discovery

c. User Interface

    i. Voice Recognition Technology
    ii. Gesture Input and Control
    iii. Interactive Applications (for both client-to-server and client-to-client)
    iv. Secure distributed processing
    v. Human factor study
    vi. Brain-computer interface

d. Consumer-based Services & Applications

    i. Application widgets
    ii. Multimedia home monitoring and automation
    iii. Personalized content search & recommendation
    iv. Real-time tele-health monitoring
    v. Social tele-networking
    vi. Secure TV commerce
    vii. Interactive content-driven games
    viii. Personalized content search & recommendation

e. Tele-government Services & Applications

    i. Speech Recognition and Understanding with Multi-dialect support
    ii. Tele-education and skill upgrading
    iii. Public alert and engagement
    iv. Tele-government transactions