

Title: Rural ICT Inclusivity

Acronym: RICTI

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: Developing new and enhancing existing technologies within new socio-economic business models to improve inclusion and equal participation and prevent digital divides, in particular related to ICTs in isolated rural communities.

Expertise offered: Experience in developing literacy intervention with minimally invasive education on open rural access points (Digital Doorways) Development and trials of open access community wireless networks in rural areas as means of establishing telecommunication infrastructures. Established network of ICT "agents" to act as first-movers in servicing rural needs through ICTs. Developed models for sustainability in Rural ICTs.

Previous FP involvement: Yes

Details of previous FP involvement: IST-Africa

Consortium status: None established

Expertise sought: Seeks partners that can provide technological and modelling expertise in developing sustainable rural ICTs. Also partners interested in rural trials to benchmark results.

Related projects: FP6

Title: Collaborative Geographical Information System in poor bandwidth environments

Acronym: CoGIS

Submitted by:

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Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: Networking between organisations in same area

Summary: A number of collaborative research initiatives have been or are in the process of being established in Africa. Common to most of these initiatives is the need that researchers that are located in nodes distributed across the region have to be able to conduct collaborative research, input new data, discover and access existing data, analyse and add value to the data, discover, access or add new information, interact with existing analysis tools and models, and share knowledge. In many cases a further requirement is for the information and products to be available to the public at large, for decision making and policy purposes as well as supporting educational outreach. A real and limiting challenge is the poor connectivity and limited bandwidth that exists in Africa. In collaboration with a number of SMMEs and the South African Environmental Observation Network (SAEON - a DST sponsored national initiative), the CSIR has managed to put together a Services Oriented Architecture design that utilises open-source software and adheres to industry open standards that addresses interoperability requirements. In particular, Open Geospatial Consortium specifications that are core to spatial information have been adhered to. To meet the identified needs, a prototype Geoportal, underpinned by a content management system that functions effectively within a poor bandwidth environment is available in Beta format. This system is being tested within a number of collaborative research projects in South Africa and has proved to be a functional and cost-effective alternative to propriety-based systems where basic level GIS capabilities are required. The intention is to work with European and African partners to establish a network of distributed data & information providers and users that will enhance the research capabilities across Africa and other developing areas where poor or restricted bandwidth is a reality.

Expertise offered: The project will draw on CSIR's broad multidisciplinary competency base, which, traditionally has been able to serve a wide variety of sectors and markets in South Africa. CSIR has also gained valuable expertise and experience in facilitating large complex projects which have required the integration of knowledge from various disciplines. Our experience in the facilitating and managing of large integrative projects where spatial analysis and modelling is required for research positions us well to understand the ICT needs and practical applications in especially poor bandwidth environments

Previous FP involvement: No

Consortium status: Seeking collaborators

Expertise sought: Partners to enhance and develop the functionality and interoperability aspects of the CoGIS, especially with expertise in the development of ontologies.

Related projects: South African national R&D programmes

Title: Wearable Devices and Integrated ICT for the disabled and the aged in the city of the future

Acronym: Wear-IT

Submitted by:

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Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: Networking between organisations in same area

Summary: People with disabilities and the aged represent 20% of the population of any Country. Their number is constantly increasing due to advances in medical research and better programs of social assistance, causing therefore an ever-increasing economic burden on society; they have however a constitutional right to dignity, access to socio-economic opportunities and to full integration in society. The possibility of an extended working life through independent access to city resources and services would alleviate such problem. This project proposes a change of standard city environments into 'intelligent enabling environments', where disabled/aged people would be provided with user-friendly wearable computing devices, able to access/use interactively useful data related to the surrounding buildings and urban infrastructure and to transmit also user's personal data. Data would include information on public buildings, location of services within, accessible entrances, approaching public transport, time-tables, and data related to persons encountered, etc. The display of such information would be 'hands-free' and in the form of flexible wearable devices embedded in personal clothing, onto viewing glasses or as part of miniaturized head-mounted see-through devices, customized also to provide audible information in a variety of languages. Information will be accessed within chosen menus, designed around users' life-styles, activities, educational and cultural characteristics and valid both in a first and in a third world context. Information would be transmitted and received within enabled 'smart buildings' and also through an urban wireless system, via satellite and/or 'hot-spots'. This project would embrace current research on innovative futuristic technologies such as Augmented Reality, Nanotechnology, Ergonomics, Bionics, Cybernetics etc. and will focus on a 'proof-of-concept' where the hypothesis of the possibility of creating such a system will be tested and measured in partnership with ICT Industry. The project will be carried out initially in a city block in the city of Pretoria, South Africa, which offers a perfect mix of First-Third World. The project will contribute to fast-track development of cities within the European Union new member States, which present similar developmental challenges. Testing of results will then be carried out in a chosen European city block of similar characteristics. Benefits in terms of product development would derive for the European ICT Industry and supporting ICT entrepreneurial enterprises. European ICT Industry and academia will be actively involved both in defining the project milestones, in carrying up experimentation and in prototype development. Demonstration prototypes will be built, both in terms of wearable computing devices and in terms of wireless communication set-up within a city context.

Expertise offered: CSIR - Council for Scientific and Industrial Research with over 3000 staff is the leading R&D Organisation in Africa and undertakes/applies research and innovation in S&T to improve quality of life. SA national imperatives and global challenges provide the strategic framework for CSIR research in 3 core areas: 'Building and transforming human capital', 'Strengthening the science and technology base' and 'Performing relevant knowledge-generating research and technology transfer'. The CSIR operating units are: Biosciences; Built Environment; Defence, Peace, Safety and Security; Materials Science and Manufacturing; Natural Resources and the Environment. The CSIR contains also 4 National Research Centres: AAIICT-African Advanced Institute for ICT also known as the Meraka Institute; The National Laser Centre; The National Metrology Laboratory; The Satellite Applications Centre. The CSIR's portfolio includes: Research, development and implementation; technology transfer; scientific and technical training; policy and strategic decision-support; Global S&T links; technical consulting; prototyping and pilot-scale manufacturing; commercialisation including venture establishment. The CSIR has clients/partners in the private/public sector, with tertiary institutions and internationally. With a strong emphasis on relevant and developmental work, it has strong roots in communities and collaborates with a wide range of funding agencies. Technology research in the field of the Disabled and the Aged is located in the Meraka Institute. The National Accessibility Portal project, the Digital Doorway Project,

wireless Tele-medicine for rural communities and the Enabling Environments for the disabled and the aged project are examples of the CSIR and Meraka's commitment in promoting the challenges associated to underprivileged citizens. The CSIR will bring in also proven expertise in technology adaptation, convergence and transfer in Developing Countries.

Previous FP involvement: No

Consortium status: 4 Partners: 1: CSIR- Meraka Institute, Pretoria, South Africa - 2: Fondazione D.C. Gnocchi - Milan, Italy - 3: National R&D Centre STAKES, Helsinki, Finland - 4: CO.IN, Rome, Italy

Expertise sought: ICT Industry - Prototype design & production - Wireless & Satellite communication - Wearable computing - Augmented reality - Humanan-Computer Interfaces (HCI) - Nanotechnologies (computing & display devices)

Related projects: International bilateral cooperation South African national R&D programmes

Title: Humanitarian logistics and quantitative methods

Acronym: Humanity

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: The purpose is to research how the techniques and methodologies of logistics and quantitative methods can be applied to reduce vulnerability to natural and human-induced disasters, to mitigate the consequences of them, and to restore and sustain infrastructure, services, the environment, human welfare and fundamental rights and liberties. This will address both short-term disasters (eg: a flood) and long term disasters (eg: HIV/AIDS). It will include: o Humanitarian logistics; o Managing the relief supply chain; o Emergency logistics; o Post disaster/conflict reconstruction; o Simulations; o Mapping resources (eg: water supplies), hazards (eg: land mines or pollution), the needy, etc; o Deploying, scheduling and routing resources; o Demarcating hazardous waste and routing their removal; o Conflict management and resolution; o Situational assessment and monitoring against indicators and targets; o Information collection, management and dissemination. This proposal could also fall under the

Theme: for Security and Space, under its area of focus: Restoring Security in Case of Crisis.

Expertise offered: The CSIR has expertise in the following: o Operations research; o Statistics; o Mathematical modelling; o Simulation; o Geographical information science; o Supply chain management; o Standards and standards development; o Indicators; o Information management; o Decision support systems; o Software development.

Previous FP involvement: Yes

Details of previous FP involvement: BESTUFS

Consortium status: No consortium yet, though we have started discussions with possible partners

Expertise sought:

Related projects: None

Title: Digital Ecosystems

Acronym: DE

Submitted by:

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Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: Thematic network on specific research questions

Summary: The OPAALS Network of Excellence is the first step in a recursive, reflexive, and self-reinforcing community building process that will culminate at the end of the project with an Open Knowledge community of research and innovation widely inclusive of all the stakeholders of digital ecosystems but mainly of academic institutions and SMEs. The contribution of research and consultancy SME E4 Solutions within the OPAALS network of excellence, is to enable and facilitate the uptake of digital business ecosystem research benefits in South Africa by acting as a potential regional catalyst in South Africa. In addition, it will serve to input and advance South African experience in the development of the DBE platform. And participate in sharing, dissemination and application of knowledge gained within the network to South African and African SMEs. Digital Ecosystems The two overarching aims of the OPAALS Network of Excellence are to: · build a sustainable interdisciplinary research community in the emerging area of Digital Ecosystems, and · develop an integrated theoretical foundation for Digital Ecosystems research, which spans three widely different disciplinary domains: social science, computer science, and natural science. Digital Ecosystems are emerging as a novel approach for the catalysis of regional growth driven by small and medium-sized enterprises (SMEs). SMEs are identified as fundamentally important to the European economy, and are increasingly being recognized as important in South African economic development. In Europe, and more so in Africa, SMEs rate of adoption of ICT is low, their R&D budgets are severely constrained, and their access to innovation is limited by the dominant IPR environment. This research project aims, through networking and collaboration, to achieve greater economies of scope for SMEs through the research into evolutionary mechanism of digital business ecosystems, borrowing from the process of autopoiesis in biological systems . The main claim that OPAALS makes is that in order to achieve sustainable digital business ecosystems of SMEs and software components the following is necessary. There is a need to understand in depth the collaborative processes and the ICTs that underpin the continuous creation, formalisation, and sharing of knowledge in the form of business models, software infrastructure for e-Business transactions. The OPAALS Network of Excellence is the first step in a recursive, reflexive, and self-reinforcing community building process that will culminate at the end of the project with an Open Knowledge community of research and innovation widely inclusive of all the stakeholders of digital ecosystems but mainly of academic institutions and SMEs. The contribution of research and consultancy SME E4 Solutions within the OPAALS network of excellence, is to enable and facilitate the uptake of digital business ecosystem research benefits in South Africa by acting as a potential regional catalyst in South Africa. In addition, it will serve to input and advance South African experience in the development of the DBE platform. And participate in sharing, dissemination and application of knowledge gained within the network to South African and African SMEs.

Expertise offered: Research and Development of Digital Ecosystems in the South African context. Introducing the Digital Business Ecosystem for enterprise development and networking. Expertise and qualifications in computing, natural science and social sciences.

Previous FP involvement: No

Consortium status: Collaborating with consortium in Europe on Digital Ecosystems. Attending networking meeting of consortium in Finland in October.

Expertise sought:

Related projects: FP6

Title: Service provision to Micro enterprises (predominantly Eastern Cape)

Acronym: Testdrive

Submitted by:

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Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: R&D project, including technology demonstration (large scale)

Summary: There are over 100 000 Micro entrepreneurs operating in the Eastern Cape (source ECDC website) who employ 49% of the province's workforce. Yellowlizard, using the UMSOBOMVU voucher program, have delivered services to over 100 aspirant entrepreneurs in 2006, allowing them to start or grow their businesses. By targeting aspirant entrepreneurs throughout the province, the number of people helped could reach 2000 (of 100 000 entrepreneurs) over the next two years. Yellowlizard have developed a "product" or methodology of delivering an infrastructure (branding, website and marketing) which enables a "Micro" (also works with Small and Medium) Enterprise to start or grow their business without the direct need of startup finance. "Without the direct need of startup finance" needs explanation. The South African government established the UMSOBOMVU YOUTH FUND which would issue vouchers to SMME's which would entitle the SMME to receive chosen services from a list of service providers. The vouchers would cost the SMME R200 per service and the service provider would redeem the full value of the service from MSOBOMVU. We believe that service provision to SMME's is entirely de-risked using this developmental strategy and that this diminished risk allows for accelerated delivery compared to any other method which involves securing finance. Yellowlizard is too small a company to be able to roll out this successful service delivery without "official' HELP. The combination of services offered (described above) is called Test drive. Evidence of the requirements (and the effectiveness of the service) was established during the recent UMSOBOMVU conference held in Port Elizabeth during June 2006. Without exception, Yellowlizard (who were exhibitors during the conference) were approached by all Eastern Cape district municipalities to consider forming partnerships with the municipalities to provide service delivery to SMME's in their areas.

Expertise offered: We have already demonstrated that we have the expertise to deliver excellent services to the SMMEs and that we have the ability to upscale our capacity to meet increased requirements. Our service delivery record, on its own, demonstrates our expertise

Previous FP involvement: No

Consortium status: Standard Bank have indicated a willingness to consider sponsorship but follow-up discussions have yet to take place

Expertise sought: Application has already been made to the Local Competitiveness Fund of the Eastern Cape - ref LCF 3/6.

Related projects: None

Title: Antennas for wireless communications**Acronym:** AWC**Submitted by:**

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Theme: Information and communication technologies**Focus Area:** Applications Research**Type of project:** Networking between organisations in same area

Summary: ICT products and innovations change the way we connect, communicate and make sense of our world. They combine Information Technology, Telecommunications and Data Networking technologies into innovative solutions that shape our future. Wireless communication is regarded as one of the key research areas within the broad scope of ICT research. From mobile telephones to wireless Internet access to networked appliances and peripherals, there is an increasing reliance on wireless communications to provide or enhance functionality for products and services [1]. The world of wireless communications can appear to be a confusing offering of services, products and standards, all competing for dominance in a dynamic marketplace. But regardless of modulation, protocol, bandwidth or frequency, every wireless device requires an antenna for transmission and/or reception - hence the proposal for a Research Chair in Antennas for Wireless Communications. Three major areas of activity in antenna research and development have emerged to meet the needs of modern communication systems; o Size reduction - as communication devices become smaller because of greater integration of electronics, the need also exists to reduce the size of the antenna. The increasing miniaturization of RF devices and the advances in wireless technologies has generated a great deal of research interest in the area of wireless sensor networks (WSNs). o Wideband or multi-band operation - as integration increases, a single antenna is often required to support two or more of the wireless services across a broad frequency range for which multi-band or wideband antennas are needed. o Arrays and "smart" arrays - antenna arrays and the development of new approaches for using such arrays to improve system performance are continually being investigated. Among these arrays are so-called "smart" antennas, which integrate radio intelligence with the antenna. [1] C.B. Dietrich, R.M. Barts, W.L. Stutzman and W.A. Davis, "Trends in antennas for wireless communications", Microwave Journal, pp. 22 - 44, January 2003.

Expertise offered: The focus of the Centre for Electromagnetism (CEM) in the Department of Electrical, Electronic and Computer Engineering is education and research in electromagnetism, development of electromagnetic antennas and subsystems in partnership with industry, research on free-space measurement techniques and the provision of independent and internationally recognized development and verification measurements to the South African industry. Measurement Capabilities o Antenna measurements: 0.75 to 40 GHz o Field strength meter calibrations: 900, 1800 MHz (GSM), and 2.45 GHz o Radar cross section measurements: 2 to 18 GHz o Scientific Atlanta 5754 - rolled edge parabolic reflector o Test zone: 2 m x 2 m x 1.5 m o Weight: 1000 kg

Previous FP involvement: No**Consortium status:** None**Expertise sought:** Research institutes with emphasis on microwave antenna applications, specifically in wireless communications.**Related projects:** South African national R&D programmes

Title: Gaining intelligence from dense wireless sensor networks in underground mines for decision support and optimal safe production

Acronym: IQMINE

Submitted by:

Declan Vogt (dvogt@csir.co.za)

Theme: Information and communication technologies

Focus Area: ICT Technology Pillars

Type of project: R&D project, including technology demonstration (large scale)

Summary: Underground mining is often undertaken with only limited real-time monitoring. This project consists of three legs: 1) sensors, including novel sensors that push the limits of miniaturisation at low cost; 2) connected to novel low power, ubiquitous wireless networks in underground working areas; that then use the mine data infrastructure to report back to 3) systems on surface that can process large quantities of data through cognitive and learning systems that will enable just-in-time decision making. The primary research challenges are: - Making wireless sensors cheap enough that they can be deployed ubiquitously; - Locating sensors in 3D space cheaply; - Setting up wireless networks that can function without external power for years, at moderate cost; - Processing vast quantities of data to advise on simple, meaningful interventions that can improve safety, health and productivity underground.

Expertise offered: CSIR has expertise in electronics and software design, in the conditions encountered in underground mining, and in several domain fields that would use data from CLEVERMINE including rock engineering, occupational health and production.

Previous FP involvement: No

Consortium status: MIRO, a UK research broker, is starting to put together a consortium.

Expertise sought: Sensor researchers and manufacturers, mining equipment manufacturers, mining companies, mining university departments, cognitive science research facilities in universities and outside, wireless research organisations.

Related projects: None

Title: Integrated tele-robotic resource management system for remote control of mineral extraction operations at multiple underground locations

Acronym: INTROMIN

Submitted by:

Declan Vogt (dvogt@csir.co.za)

Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: R&D project, including technology demonstration (large scale)

Summary: To develop a digital system for remote control and operation of mineral extraction by heavy machinery at multiple underground locations of a mine site. The system will integrate digital georeferenced information bases, automated control and communications systems and new robotics technologies, in order to give a mine site management centre real-time remote control, overview and coordination to enable automated mining vehicles and other machinery to interact safely and efficiently in a shared network of tunnels. The system will provide a virtual overview of the working environment in real time as it evolves during multiyear operations and will also enable on-demand human operator intervention where necessary to optimise the safety and productivity of operations.

Expertise offered: CSIR offers expertise as a research provider into the mechanization of narrow seam mining, through-earth communications, rock engineering of novel mining configurations and health and safety implications of remotely operated equipment.

Previous FP involvement: No

Consortium status: A consortium is being formed, brokered by MIRO in the UK, including CSIR, and eight other European and Canadian industrial, research, academic and mining partners.

Expertise sought: As a consortium in process, the collective expertise is in place.

Related projects: None

Title: The effect of violent crime on witness cognition: A virtual environment tool for the simulation and study of the cognitive effects of violent crime

Acronym: VICSIM

Submitted by:

Colin Tredoux (plato@humanities.uct.ac.za)

Theme: Information and communication technologies

Focus Area: ICT Technology Pillars

Type of project: R&D project (small scale)

Summary: Violent crime is a key social problem. For instance, in South Africa, over 48000 women are raped each year, and in France 7500. Prevention of crime relies on identification and prosecution. However, witnesses and victims of interpersonal crime are subject to high emotional and physiological arousal, which presumably have strong effects on cognition and identification ability. However, present cognitive science methods do not permit states of arousal to be adequately studied due to practical and ethical limitations. Deffenbacher (2004) concludes that these limitations have inadvertently led to the study of orienting rather than arousal responses. Virtual environments (VEs) have shown promise in generating anxiety. For example, Slater et al (1999) induced anxiety for public speaking with a virtual audience. We propose to study the effect of strongly arousing crime situations on cognition with the use of VEs. In order to do this, we will develop tools which will allow for realistic simulation, and physiological/cognitive monitoring of participants. The VEs will allow us to embed the participants into socially complex and realistic situations, while still maintaining complete experimental and ethical control. The simulator is general purpose. However, we have firm applications in mind. The first is simulation of crimes; volunteers will experience life-like crime situations both as victims and witnesses, while the features of the setting and perpetrators are experimentally controlled. The physiological apparatus validates the intensity of the experience. The second is simulation of intergroup encounters such as demonstrations or crowd protests, where a participant can become part of a virtual crowd, or be trained to respond to a crowd. These applications have obvious long-term promise for police training. This project will deliver novel solutions for studying the vexed question of high arousal on cognition, and providing insights that will in the long term help police deal with crime witnesses.

Expertise offered: a) The study of eyewitnesses. Tredoux and Chiroro are well published in this area. b) Development of software tools for use in law-enforcement. One of our tools, by Tredoux, Oxtoby and Nunez, developed is currently being piloted by the SAPS. A second tool, for searching large police face image databases is currently under development. c) The study of cognition in virtual environments. Nunez, Blake and Thomas are well published in this area. d) Development of virtual environments. Nunez and Blake have constructed a number of large scale environments. e) Interactive computer graphics and virtual environments. Blake and Gain are well published in this field, and have considerable software engineering experience. f) Biomedical and physiological measurement. John and Tapson were specifically recruited for this purpose. g) A number of postgraduate students in the areas of eyewitness memory and interactive computer graphics have been identified for their talents.

Previous FP involvement: No

Consortium status: Agreement from departments at the University of Cape town (psychology, computer science, biomedical engineering) and one department from the University of Pretoria (psychology). We have approached a number of others and the South African Police Service.

Expertise sought: Expertise in eyewitness research, physiological measurements in virtual environments, virtual reality, computer graphics, criminological research.

Related projects: South African national R&D programmes

Title: The underlying philosophy of Project Management Practice

Acronym: LivedExperience

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: Thematic network on specific research questions

Summary: The recent project management research literature illustrates there is a growing awareness that the project management body of knowledge and underlying theory is inadequate at dealing with complex projects (Besner, 2004; Bredillet, 2004; Turner, 2005; Williams, 2004; Winter & Thomas, 2004). Bredillet(2005) emphasizes that the underlying philosophy of Project Management is mostly positivist and therefore underpinned by rational causality and order assumptions. This philosophy is inadequate to deal with the kinds of problems where there are no clear straight forward solutions. Bredillet calls for Project Management to be seen as a discipline dealing with complex reality. One of the areas Bredillet identifies for more research is the need for modelling to understand. This aligns with Hoving and Winters call for project retrospectives as well as understanding the project management process (Hoving, 2003; Winter & Thomas, 2004). There is therefore a real need to understand the Information Systems project management process to provide an understanding of how IS projects are executed or are being executed. The need has to be fulfilled by understanding the present (lived experience) as well as retrospection. Nelson indicates in his call for retrospectives that the investigations need to go beyond simple checklist of what went wrong or right (Nelson, 2005).

Expertise offered: I am an experienced project manager with more than a decade of experience in managing large scale IS projects. I also teach ICT project management at undergrad and post grad levels and am an active researcher in this area. I also supervise post graduate research in the areas of global software development and ICT project management.

Previous FP involvement: No

Consortium status: Have a community of academics at the university who collaborate on research in the above area.

Expertise sought: Academics or consortiums that have a similar realisation of project management practice to engage in joint research projects.

Related projects: None

Title: Community Owned Networks**Acronym:** CommONet**Submitted by:**

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Theme: Information and communication technologies**Focus Area:** Applications Research**Type of project:** R&D project (small scale)

Summary: This project seeks to build a low-cost community owned network in an underserved area in order to support health, education and local economic development. The project will focus on creating community access both in terms of different connectivity solutions (wifi, mobile) and enable access in local languages of local and global content. A common software platform will be developed using open source that will facilitate the contribution of local content by community members. This will include VoIP, text, MMS, web pages and voice clips. This platform will support a health, education, agriculture, micro-finance and SME portal. The approach focuses on the community and supports integrated service delivery utilising a common infrastructure platform as opposed to a fragmented, sectoral, silo approach that duplicates effort and cost. The community network will connect clinics, schools, local municipality, police, agricultural extension office and community centres with each other, providing intranet services, as well as the internet. The network will be based on community ownership whereby the community feels empowered and takes responsibility for the ongoing sustainability of the network. This will be achieved through the development of innovative business models, institutional support and community buy-in. A number of key research themes will be monitored and evaluated:

- o Identify user needs and understand user uptake and contribution to quality of life
- o Develop and implement low-cost connectivity platform
- o Develop business models and institutional models for sustainability
- o Scalability and replicability issues
- o Dissemination strategies

Key Outcomes Understanding the contribution to development, this project will:

- o Enhance rural healthcare
- o Support ICT in education
- o Provide community access and enhance security
- o Bring ICTs to rural farmers
- o Contribute to local economic development through ICTs for micro-financing and local business support
- o Provide ICT capacity for local municipalities
- o Develop a sustainable replication model for Africa
- o Provide evidence-based research results that contribute to a supportive telecommunications regulatory environment for the region

Expertise offered: Meraka has experience in the development and implementation of ICT for rural development projects funded by DST, World Bank, Kellogg Foundation and the IDRC. Meraka is developing a number of new international partnerships and building capacity by developing PhD's and interns.

Previous FP involvement: Yes**Details of previous FP involvement:** IST-Africa SSA FP6**Consortium status:** Meraka, Telematica (Netherlands), TNO, Fraunhofer, MRC,**Expertise sought:****Related projects:** FP6

Title: Technology Impact Study**Acronym:** TIS**Submitted by:**

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Theme: Information and communication technologies**Focus Area:** Integration of Technologies**Type of project:** R&D project, including technology demonstration (large scale)

Summary: TekkiTots is currently a research project that exposes children aged 5-6 to hands-on technology experiences. It is part of a larger initiative being planned, called "Young Engineers of South Africa" (YESA), that will consist of a series of interventions aimed at influencing children (aged 3 - 18) to follow careers in technology. The interventions do not follow a formal, curriculum-based approach, but are based on extra-mural activities, such as clubs, camps, winter/summer schools, workshops and competitions. The aim is to free the child from the often restrictive and pressurised environment of the classroom, and to provide a more unstructured and empowering experience where the child is free to experiment and explore. YESA aims to support existing initiatives as well as initiate new ones where there may be gaps. The hypothesis is that interest in Science, Mathematics and Technology forms the foundation of careers in ICTs. Through the introduction of these subjects in a hands-on, fun way, children may develop an interest and appreciation for the subjects and may choose to follow a career in ICTs and engineering. There is a need to establish a long term impact study to monitor a large research group over a 20 year period as they are exposed to the various interventions that form an integral part of YESA. These include Kids' Club, Fab Kids, F1 in Schools, Green Power, 4x4 Challenge, Science Expos, Science Weeks, ICDL, etc. The long-term goal of YESA is to apply collaborative research, development and innovation of ICT interventions to support the massification of effective, pedagogically-appropriate and sustainable technology-enhanced teaching and learning in South Africa and Southern Africa. YESA will operate within the mandate of Meraka, more specifically within the ICT in Education Research, Development and Innovation Strategy.

Expertise offered: TekkiTots is currently a research project that exposes children aged 5-6 to hands-on technology experiences. It is part of a larger initiative being planned, called "Young Engineers of South Africa" (YESA), that will consist of a series of interventions aimed at influencing children (aged 3 - 18) to follow careers in technology. The interventions do not follow a formal, curriculum-based approach, but are based on extra-mural activities, such as clubs, camps, winter/summer schools, workshops and competitions. The aim is to free the child from the often restrictive and pressurised environment of the classroom, and to provide a more unstructured and empowering experience where the child is free to experiment and explore. YESA aims to support existing initiatives as well as initiate new ones where there may be gaps. The hypothesis is that interest in Science, Mathematics and Technology forms the foundation of careers in ICTs. Through the introduction of these subjects in a hands-on, fun way, children may develop an interest and appreciation for the subjects and may choose to follow a career in ICTs and engineering. There is a need to establish a long term impact study to monitor a large research group over a 20 year period as they are exposed to the various interventions that form an integral part of YESA. These include Kids' Club, Fab Kids, F1 in Schools, Green Power, 4x4 Challenge, Science Expos, Science Weeks, ICDL, etc. The long-term goal of YESA is to apply collaborative research, development and innovation of ICT interventions to support the massification of effective, pedagogically-appropriate and sustainable technology-enhanced teaching and learning in South Africa and Southern Africa. YESA will operate within the mandate of Meraka, more specifically within the ICT in Education Research, Development and Innovation Strategy.

Previous FP involvement: No**Consortium status:** q**Expertise sought:** q**Related projects:** None

Title: Smart Learning Networks**Acronym:** SL Networks**Submitted by:**

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Mobile: 0833108843

Postal Address: Meraka Institute c/o CSIR Pretoria South Africa

Theme: Information and communication technologies**Focus Area:** Integration of Technologies**Type of project:** R&D project, including technology demonstration (large scale)

Summary: Nelson Mandela, in his autobiography, Long Walk to Freedom, identifies access to education as being the limiting factor and not an individual's ability as a determinant of future success. In a knowledge society a lack of access to information is leaving more and more learners on the wrong side of the digital divide, relegating the masses to a life of ignorance and poverty. This situation is exacerbated by the increasing number of teachers dying of AIDs on a daily basis. Even though a teacher may be terminally ill, their positions cannot be filled leaving more and more classes with no teacher present. Added to this is the problem of teacher training institutions putting out fewer and fewer qualified educators. This project is based on the Ulwazi principle (http://ulwaziproject.co.za/ronbeyers/The_Ulwazi_Concept_-_NADEOSA_Conference_Paper.doc) which uses zero-rated radio broadband communications networks coupled to a fiber optic backbone to create a large intranet within a metropolitan area. Such a network does exist in the Tshwane area. By providing access to shared resources it is possible to create educational opportunities that can supplement the educational needs of learners in 424 schools in Tshwane potentially circumventing the pedagogical crisis. The advantage of having such a high bandwidth network capable of delivering top educational material is the ability to also deliver virtual interactive and collaborative lessons scheduled or on demand. The shortcomings of limited interactivity from the William Smith model of broadcasting to the masses is overcome. Using interactive whiteboards, microphones, speakers and web cams it has been demonstrated that limited supplementary tuition can result in significant improvements in results, etc. Additional advantages include the possibilities of a metropolitan-wide school administration, management of shared bandwidth, access to top educators at other schools, etc. The cost effectiveness of such a system will add greater value to the local municipality through the enablement of other services such as health and library services.

Expertise offered: Having completed a Masters Degree in Education I focused on the use of ICTs in the classroom and was privileged enough to have managed a well resourced computer centre at a top private school. I soon realized the need to transform education by tapping into the power of technology rather than letting technology dictate the boundaries of education. I have been intimately involved in a number of outreach projects for learners and educators over the past decade which increasingly involved a variety of technologies. The Ulwazi project (www.ulwaziproject.co.za) demonstrated the possibilities of digital inclusion to enable a social transformation process in previously disadvantaged communities. Having resigned from teaching I am not committed to establishing a national organization, the Young Engineers of South Africa, to empower more learners through the use of technology in the fields of science, engineering and technology getting away from a thumb-suck teaching practice. (CV <http://www.ulwaziproject.co.za/ronbeyers>)

Previous FP involvement: No**Consortium status:** Meraka Institute

Expertise sought: Nelson Mandela, in his autobiography, Long Walk to Freedom, identifies access to education as being the limiting factor and not ability to an individual's future success. In a knowledge society a lack of access to information is leaving more and more learners on the wrong side of the digital divide, relegating the masses to a life of ignorance and poverty.

Related projects: None

Title: Fab Kids' Clubs

Acronym: Fab Kids

Submitted by:

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Postal Address: Meraka Institute c/o CSIR Pretoria South Africa

Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: R&D project, including technology demonstration (large scale)

Summary: A key element for preparing learners for life in a technological world is the ability to provide them with access to tools to realize their innovative ideas as physical artifacts by applying lateral thinking, problem solving skills in groups rather than being targets of boring information transfer. High tech manufacturing equipment is too expensive placing it out of the reach of most schools and hence unavailable to learners. Physical and virtual access to high tech manufacturing equipment has the potential to unleash both the creative and innovative potential of learners. The formation of the Fab Kids project aims to demonstrate the educational potential of exposing learners to such environments. The ultimate aim is to provide the learners with the right knowledge, skills attitudes and values to be able to utilize all the resources at their disposal in a Fab Lab type of environment to be able to produce artifacts that are innovative and have an entrepreneurial component as well. The proposal is to establish high tech labs around South Africa based on the Fab Lab principle (located at the Pretoria Innovation Hub) which can act as local and regional hubs providing manufacturing capabilities for participating schools as part of a digital inclusion process. The ideal is to have full hands-on participation but transportation issues excludes the most schools. The benefits of a high tech manufacturing environment can be shared with even rural communities through the use of open source software technologies teleporting learners to the right side of the digital divide. This initiative will form an integral part of the newly established Young Engineers of South Africa (YESA) organization which aims to increase the pipeline of youth pursuing careers in science, engineering and technology in order to impact on the economic growth of the region.

Expertise offered: Having completed a Masters Degree in Education I focused on the use of ICTs in the classroom and was privileged enough to have managed a well resourced computer centre at a top private school. I soon realized the need to transform education by tapping into the power of technology rather than letting technology dictate the boundaries of education. I have been intimately involved in a number of outreach projects for learners and educators over the past decade which increasingly involved a variety of technologies. The Ulwazi project (www.ulwaziproject.co.za) demonstrated the possibilities of digital inclusion to enable a social transformation process in previously disadvantaged communities. Having resigned from teaching I am not committed to establishing a national organization, the Young Engineers of South Africa, to empower more learners through the use of technology in the fields of science, engineering and technology getting away from a thumb-suck teaching practice. (CV <http://www.ulwaziproject.co.za/ronbeyers>)

Previous FP involvement: No

Consortium status: Meraka Institute

Expertise sought: Researchers, technology suppliers, training institutions, technology and engineering institutions, funders

Related projects: None

Title: Young Engineers of South Africa Project**Acronym:** YESA**Submitted by:**

Ron Beyers (rbeyers@csir.co.za)

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Postal Address: Meraka Institute c/o CSIR Pretoria South Africa

Theme: Information and communication technologies**Focus Area:** Integration of Technologies**Type of project:** R&D project, including technology demonstration (large scale)

Summary: The Young Engineers of South Africa Programme (YESA) main focus area will be on ICTs in education and the way that they can impact on the nurturing of future Science, Engineering and Technology (SET) graduates within a developing world context. The inherent power of ICT in classrooms needs to be harnessed to improve the efficiency, accessibility and quality of the learning process in South Africa while providing practical interventions underpinned by effective research, in order to meaningfully inform educational policy and practice. This intervention aims to confront the challenges in education in our country while fostering creativity, innovation and competitiveness. It will also provide a vehicle to trial a range of new innovations emanating from the Meraka Institute. The programme aims to increase the number of youth selecting and successfully completing qualifications in the hard sciences at undergraduate and post graduate levels in the next ten years. This can be achieved by initiating and deploying a number of national interventions across a broad range of projects and competitions that will instil a love of the subject in the learners and nurture a spirit of 'I can do IT'. These interventions will include robotics, space exploration, access to high tech rapid prototyping labs, programming, music, conferences, etc, beginning at preschool level and making provision to include all learners in South Africa. The fun aspects of learning in a non-threatening extra mural club environment will be encouraged with a heavy emphasis on creativity, innovation, logical and lateral thinking, problem solving and group work. The long-term goal of YESA is to apply collaborative research, development and innovation of ICT interventions to support the massification of effective, pedagogically-appropriate and sustainable technology-enhanced teaching and learning in South Africa and Southern Africa. YESA will operate within the mandate of Meraka, more specifically within the ICT in Education Research, Development and Innovation Strategy.

Expertise offered: Having completed a Masters Degree in Education I focused on the use of ICTs in the classroom and was privileged enough to have managed a well resourced computer centre at a top private school. I soon realized the need to transform education by tapping into the power of technology rather than letting technology dictate the boundaries of education. I have been intimately involved in a number of outreach projects for learners and educators over the past decade which increasingly involved a variety of technologies. The Ulwazi project (www.ulwaziproject.co.za) demonstrated the possibilities of digital inclusion to enable a social transformation process in previously disadvantaged communities. Having resigned from teaching I am not committed to establishing a national organization, the Young Engineers of South Africa, to empower more learners through the use of technology in the fields of science, engineering and technology getting away from a thumb-suck teaching practice. (CV <http://www.ulwaziproject.co.za/ronbeyers>)

Previous FP involvement: No**Consortium status:** None**Expertise sought:** Governmental involvement, researchers, technology suppliers, training institutions, technology and engineering institutions, funders**Related projects:** None

Title: South African School of Space and Aeronautical Technologies

Acronym: SASSAT

Submitted by:

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Postal Address: Meraka Institute c/o CSIR Pretoria South Africa

Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: R&D project, including technology demonstration (large scale)

Summary: Access to future technologies and out of this world experiences are viewed as key catalysts to providing career changing hands-on experiences for the modern youth. These are currently encapsulated in the NASA Future Astronaut Training Programme (FATP) where those learners whose parents can afford the hefty price tag, can experience first-hand. The digital youth of today require high tech experiences to maintain sustainable levels of interest and motivation for effective learning. A combination of real technology in action coupled to having to manufacture their own tools in the field in order to complete scientific investigations and complete other mission objectives, can potentially provide a new level of interest in the fields of science, engineering and technology. The concept of a South African School of Space and Aeronautical Technologies is based on the NASA Cosmosphere (<http://www.cosmo.org/>) which will be aimed at producing an Africanaut for the planned Mars 2020 Mission. The programme must also be an affordable learning experience which is accessible to both urban and rural learners. It will entail a number of activities including leadership training, writing scientific reports, astronomy, cultural difference, etc, and participating in team building activities. All activities are focused on a final 3-4 day 'Mars Mission' which will include a range of planned and unplanned scientific investigation. Field work activities will be shared with schools via the internet as part of a e-inclusion process. The ability to identify essential engineering potential amongst our youth within the context of applied ICTs and science can have a significant long term effect on the economy of this region. Such an intervention can also enhance the value of science expos by contextualizing subject based research to be included in all missions. This project forms an integral component of the Young Engineers of South Africa (YESA) Programme.

Expertise offered: Having completed a Masters Degree in Education I focused on the use of ICTs in the classroom and was privileged enough to have managed a well resourced computer centre at a top private school. I soon realized the need to transform education by tapping into the power of technology rather than letting technology dictate the boundaries of education. I have been intimately involved in a number of outreach projects for learners and educators over the past decade which increasingly involved a variety of technologies. The Ulwazi project (www.ulwaziproject.co.za) demonstrated the possibilities of digital inclusion to enable a social transformation process in previously disadvantaged communities. Having resigned from teaching I am not committed to establishing a national organization, the Young Engineers of South Africa, to empower more learners through the use of technology in the fields of science, engineering and technology getting away from a thumb-suck teaching practice. (CV <http://www.ulwaziproject.co.za/ronbeyers>)

Previous FP involvement: No

Consortium status: Meraka Institute

Expertise sought: Governmental Organization, researchers, technology suppliers, training institutions, technology and engineering institutions, space agencies, funders

Related projects: None

Title: Eastern Cape Educational Connectivity project**Acronym:** ECCC**Submitted by:**

Ron Beyers (rbeyers@csir.co.za)

Mobile: 0833108843

Postal Address: Meraka Institute c/o CSIR Pretoria South Africa

Theme: Information and communication technologies**Focus Area:** Applications Research**Type of project:** R&D project, including technology demonstration (large scale)

Summary: The Eastern Cape Community Connectivity project strives to address the historical educational and health crisis that this province is currently faced with. Teachers are dying of AIDS on a daily basis, coupled to poor quality of teaching as well as poor delivery of health and other services in the province is merely perpetuating a cycle of poverty in the region. Given the maturity of modern communications technologies it has been demonstrated that it is possible to share top educators with previously disadvantaged communities and to make a significant difference. The innovative Ulwazi e-Learning Project (www.ulwaziproject.co.za) has demonstrated virtual collaborative classrooms as a platform for digital inclusion of remote students using broadband radio networks to provide access to interactive lessons as well as accessing other shared educational materials at zero cost in a closed IP Based network. By establishing a radio corridor from Port Elizabeth to the Kei Mouth and even beyond, it would be possible to create a network of classroom which can be supported by top educators providing supplementary education. The sharing of best practice and access to quality information and other educational resources can circumvent the shortcomings of the local compliment of under qualified teachers. The same infrastructure could e-enable tele-medicine to a number of remote health clinics which serve this under resourced region. Clinical information that has been digitized could be distributed to medical support staff around the world that have spare capacity to provide a digital diagnosis and recommend treatment. Other advantages could include Voice over IP communications, remote security monitoring of schools and clinics coupled to the upgrading of skills of communities. The deployment of this type of e-Health and e-Educational solution will lay the cornerstones for solutions that could have a profound influence across the rest of Africa.

Expertise offered: Having completed a Masters Degree in Education I focused on the use of ICTs in the classroom and was privileged enough to have managed a well resourced computer centre at a top private school. I soon realized the need to transform education by tapping into the power of technology rather than letting technology dictate the boundaries of education. I have been intimately involved in a number of outreach projects for learners and educators over the past decade which increasingly involved a variety of technologies. The Ulwazi project (www.ulwaziproject.co.za) demonstrated the possibilities of digital inclusion to enable a social transformation process in previously disadvantaged communities. Having resigned from teaching I am not committed to establishing a national organization, the Young Engineers of South Africa, to empower more learners through the use of technology in the fields of science, engineering and technology getting away from a thumb-suck teaching practice. (CV <http://www.ulwaziproject.co.za/ronbeyers>)

Previous FP involvement: No**Consortium status:** Meraka Institute**Expertise sought:** Telecommunications, e-Health, e-Education, Content Providers, Research institutions, Funders, Long term partners**Related projects:** None

Title: Science, Maths, ICT ,Learning and English with mobile devices and the Internet

Acronym: SMILE

Submitted by:

Johannes Cronje (jcronje@up.ac.za)

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Postal Address: Faculty of Education University of Pretoria 0002

Theme: Information and communication technologies

Focus Area: ICT Technology Pillars

Type of project: R&D project, including technology demonstration (large scale)

Summary: The project seeks to incorporate ICT in the form of Web-based portals and mobile technology to develop learning materials for Science, Mathematics and Technology education as well as English language skills. How it will work is this: A group of experienced educators, who are also Masters students of the University of Pretoria will design and develop a series of lessons to be run with the help of mobile devices (cell phones, smart phones, PDAs) covering basic principles of Science, Mathematics, Technology and English. The lessons will use the information processing (i.e. database, spreadsheet, word processor) functions of the mobile devices, as well as its instructional capacity (i.e. running tutorials and simulations as flash animations). The lessons will also incorporate existing developments in using SMS text messaging and audio-wiki (mini lectures delivered via cell phone calls). All materials will be made available free of charge on an Internet portal. Research will be conducted into the cultural neutrality and cultural adaptability of these learning objects. It is envisaged that the eventual lessons should be done in such a way that they could be easily customised by a specific teacher to suit in with a particular cultural and natural environment. A blend of instructivist (tutorials and drills) and constructivist (explorative, problem-based learning) techniques will be used. Learners will be required to produce a report on what they had learnt, in the form of a formal ENGLISH essay. Other lesson activities, such as questionnaires, interviews protocols, letters requiring permission to investigate phenomena, etc. will be designed by the English teachers on the project. The project will be supervised by a Professor, and the various "legs" of the project, Science, Mathematics, Technology and English, will be co-supervised by doctoral students, while the development will be conducted by masters students. The target population will be drawn from both advantaged and disadvantaged schools in the greater Gauteng area. Lessons will also be tested in European settings by each of the partner universities to verify the extent to which they are either culturally neutral, or culturally adaptable. In this way it is hoped to create a GLOBALLY useful resource. The development will be supported by the MERAKA Institute, and the universities of Joensuu, and Helsinki, Finland. The project will be evaluated by the University of Enschede and the University of Bergen.

Expertise offered: Prof Johannes Cronje has supervised 27 Phd candidates and 60 Masters students in the field of computers in Education. The work of the students to date have included development of technological solutions, evaluation of best practices, and didactical practice of e-learning and mobile learning. The Meraka institute has extensive experience in developing mobile technology for learning. They have developed mobile learning platforms, open-source materials and a "digital doorway" where users in developing areas can have free access to information.

Previous FP involvement: No

Consortium status: European partners in this project who are already working together through the mediation of Prof Cronje are The University of Joensuu, Finland, The University of Helsinki, Finland, The University of Twente, Enschede, and The University of Bergen, Norway.

Expertise sought: The University of Joensuu in Finland has extensive experience in technology for young people through their

Related projects: International bilateral cooperation South African national R&D programmes

Title: Information Security Governance

Acronym: InfSecGov

Submitted by:

Basie von Solms (basie@rau.ac.za)

Tel: + 27 (0)11 4892843 Mobile: +27 (0)825532436

Postal Address: PO Box 524 Aucklandpark 2006

Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: This project investigate the aspect of Information Security Governance (InfSecGov). Aspects like models for InfSecGov, international best practices for InfSecGov, the relationship of InfSecGov with Corporate Governance and IT Governance are investigated

Expertise offered: The Academy of IT of the University of Johannesburg has extensive expertise and knowledge in this area, and have made good progress in this area.

Previous FP involvement: No

Consortium status: Potential partners active in the area of InfSecGov as discussed above are sought.

Expertise sought:

Related projects: South African national R&D programmes

Title: Information Security in e-learning systems

Acronym: InfSec-e-L

Submitted by:

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Postal Address: PO Box 524 Aucklandpark 2006

Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: This project will investigate the information security aspects concerned with e-Learning and e-Assessment systems

Expertise offered: The Academy of IT of the University of Johannesburg has sound expertise in all areas of information security

Previous FP involvement: No

Consortium status: Prof Sigrid Schubert, University of Siegen, Germany

Expertise sought:

Related projects: South African national R&D programmes

Title: Computation of gravitational radiation

Acronym: CGR

Submitted by:

Nigel Bishop (bishont@unisa.ac.za)

Postal Address: Department of Mathematical Sciences, P.O. Box 392, Unisa 0003

Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project, including technology demonstration (large scale)

Summary: Numerical solution of Einstein's equations, leading to the accurate computation of gravitational radiation emitted by astrophysical events such as the in-spiral and coalescence of compact objects (i.e. black holes or neutron stars).

Expertise offered: Expertise with characteristic numerical relativity codes. The project goal of accurate computation of gravitational radiation would be achieved by combining a characteristic code with a "3+1" code using the method known as Cauchy-characteristic extraction or matching.

Previous FP involvement: Yes

Details of previous FP involvement: Genesis in FP2

Consortium status: No other partners

Expertise sought: An operational binary black hole or neutron star code

Related projects: International bilateral cooperation South African national R&D programmes

Title: Broadband Wireless Multimedia Communication using MIMO

Acronym: BWMC-M

Submitted by:

Sunil Maharaj (sunil.maharaj@eng.up.ac.za)

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Postal Address: P.O. Box 716, Garsfontein, 0042 Tshwane South Africa

Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: The project would encompass Channel Modelling strategies and measurement campaigns so as to characterise and model indoor and outdoor MIMO channels using OFDM technology, particularly for rural and high density type environments.

Expertise offered: We have developed a prototype wideband MIMO channel sounder here at University of Pretoria and would like to collaborate with group and persons who would be interested in investigating this area. We have expertise in MIMO channel modelling as well. We would like to exploit research into WiMAX and 4G Technology opportunities.

Previous FP involvement: No

Consortium status: Seeking partners for consortium and collaboration

Expertise sought: Channel modelling, MIMO-OFDM and broadband multimedia applications.

Related projects: South African national R&D programmes

Title: Scenarios for future government**Acronym:** FutureGov**Submitted by:**

Laurens Cloete (jcloete@csir.co.za)

Tel: +27 12 841 3165

Postal Address: PO Box 395 Pretoria 0001

Theme: Information and communication technologies**Focus Area:** Applications Research**Type of project:** Implementation support to FP7s

Summary: E-government research concerns multidisciplinary research to enable the use of new information and communication technology to improve government administration, access to government services, broaden democracy, enable interaction between the political, administrative spheres of government with civil society etc. Various e-government initiatives in Europe and elsewhere have been implemented with mixed success. It can however be argued that the full potential of Information and Communication technology has not been realised due the lack of a common research strategy and lack of direction in individual research efforts. The project aims to bring together multidisciplinary experts from government, universities and industry to envision what future e-government scenarios could look like through the use of appropriate futures techniques. This will allow the development of R&D roadmaps for future e-government. The work will include a scan of the current state of the art and emerging research areas with a view to identifying relevant technology trends. The scope of work includes but is not limited to considering advances in communication networks, knowledge, cognitive and learning systems, semantic representation, human computer interfaces and will consider issues such as inclusion, mobility, efficiency, openness and accountability.

Expertise offered: Futures studies Information Society technology strategy E-government technology Telecommunication and networks Software Engineering and Open Source Software Applications Research

Previous FP involvement: Yes

Details of Previous FP involvement: FP6 - IST Africa, FlossWorld, ESATAP

Consortium status: Concept discussed with experts from Europe and South Africa including at the EGOV 2005 in Copenhagen last year

Expertise sought: Partners sought - including suppliers of technology to government, experts in various fields of governments including e-democracy, further expertise in futures studies and technology strategy etc.

Related projects: South African national R&D programmes

Title: Libre Knowledge and Life-Long Learning: ICT Interventions Research Programme

Acronym: LibreKnowledge

Submitted by:

Kim Tucker (ktucker@csir.co.za)

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Postal Address: CSIR PO Box 395 Pretoria 0001 South Africa

Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: Networking between organisations in same area

Summary: As information and social connectivity increase through the world wide web and emerging technologies (social software, semantic web, etc.), ways in which people learn and exchange knowledge is evolving rapidly. In Africa, access to ICTs and connectivity is being facilitated by multiple initiatives. The intention of this project is to develop a research programme around ICT interventions, augmented with learning content and tools to enable individuals and communities to empower themselves with free/libre knowledge, and to be able to participate in the global knowledge society to meet local needs and share learning, etc.

Expertise offered: FLOSSWorld

Previous FP involvement: Yes

Details of Previous FP involvement: FLOSSWorld

Consortium status: Multiple parties interested in South Africa, Finland and other countries.

Expertise sought: Parties with experience of ICT interventions and best practices, education researchers, parties pioneering popular and new technologies such as web 2.0, semantic web, social software, social tagging, etc.

Related projects: FP6

Title: Information Systems and education

Acronym: IS education

Submitted by:

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Tel: 012-4203085 Mobile: 0832891989

Postal Address: Dept of Informatics University of Pretoria Pretoria 0002

Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: Theory: Application of teaching and learning theories to, and the use of innovative tools and techniques in information system teaching. Socio-economic implications: Application of a socio-technical framework for understanding information system teaching and also failure in diverse settings. Particular emphasis is on the context and hence we have a particular interest in issues relating to developing countries. Research Approaches: Multi-methodological (Pluralist) but with a bias towards interpretive research Human Behaviour: The impact and role of cooperative learning and group work in the IS teaching environment Culture: The role and impact of culture on IS teaching and visa versa Curriculum: Development of curriculum, taking into account what industry requires.

Expertise offered: 20 lecturers offering IS courses.

Previous FP involvement: No

Consortium status: Fulbright scholar has joined department in 2006 - 2007

Expertise sought: Expertise in the fields stated in the project summary.

Related projects: None

Title: Multimodal Occupational Therapeutic Interventions Via Advanced Technology Environments

Acronym: MOTIVATE

Submitted by:

Merryl Ford (mford@csir.co.za)

Theme: Information and communication technologies

Focus Area: ICT Technology Pillars

Type of project: R&D project, including technology demonstration (large scale)

Summary: Researching the use of multi-modal human-computer interaction to assess and support the treatment of conditions requiring occupational therapy. The project will build on existing knowledge and expertise in the ICT, HLT, computer graphics, computer gaming, pattern recognition, human factors and integrated sensor fields by researching innovative solutions for treating learning disabilities in children. A project of this nature requires research spanning the innovation chain from strategic basic research through to applied research, experimental development and pilot deployment. The main objective is to determine the potential of human-computer interaction that will enable children with developmental disorders to interact with a computer game-like environment using their bodies, gestures and voice in order to treat intellectual and physical developmental delays. The traditional way in which these problems are addressed is in one-to-one therapy sessions between child and therapist where various physical and mental exercises are administered and monitored by the therapist. Research has proved that game-like environments have a positive effect on the cognitive abilities of learners/children. Traditionally child developmental experts have shied away from the use of computers by young children since many of their physical developmental problems are exacerbated by the current nature of interaction with computers (mouse and keyboard) and the sedentary lifestyle of the modern child. This project hopes to significantly reverse this problem by making use of the acknowledged vast potential of educational computer games/environments to support cognitive development by enabling the computer to become a truly useful, multi-dimensional tool to support intellectual and physical development as well. This envisaged research project will be undertaken in partnership with child development specialists, such as occupational therapists, educational psychologists, speech therapists and research experts from various universities (nationally and internationally) in this field.

Expertise offered: ICT in Education research, development and innovation in a developing world context, ICT hardware and software engineering; human language technologies; electronic engineering; expertise in the application of technologies in a developing world context; monitoring, evaluation and outcomes mapping; e-learning, m-learning, pedagogical models, semantic web, tangible learning objects, Human Computer Interaction

Previous FP involvement: No

Consortium status: no consortium - currently CSIR proof of concept project

Expertise sought: multimodal research and development, HCI, ICT, HLT, computer graphics, computer gaming, pattern recognition, human factors and integrated sensor fields

Related projects: None

Title: Integrating New, Novel and Alternative Technologies in Education

Acronym: INNATE

Submitted by:

Merryl Ford (mford@csir.co.za)

Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: R&D project, including technology demonstration (large scale)

Summary: Investigating the use of new and innovative technologies integrated into the education system - such as human language technologies, "smart" devices, wireless and handheld devices, merging media devices and high-performance computing concepts and facilities. Examples of specific research topics within this area include: * the application of mobile technologies in collaborative formal and informal learning environments; * the application of gaming and blended media environments to support formal and informal learning activities; * designing innovative, graphical learning environments for children; * assessment and evaluation techniques for measuring learning outcomes resulting from ICT interventions in the educational domain; * the use of multi-modal and multimedia technologies in child-computer interaction environments; * designing and developing physical/tangible learning objects ("intelligent e-toys"); * alternative learning devices and technologies to support education in a developing world context; * Advanced infrastructure to support education (next generation networks, devices, services); * Advanced HCI to support ICT-enabled learning environments; * Application of artificial intelligence (AI) and semantic web to support education; * Virtual/Augmented reality in education; * E-learning solutions and platforms (using advanced cognitive science and learning theory); * State of the art educational technology platforms (learning objects, object repositories, collaborative learning environments, etc.); and * Libre learning: free software/ free knowledge exploring the implications of increased information and social connectivity for a knowledge-empowered society.

Expertise offered: ICT in Education research, development and innovation in a developing world context, ICT hardware and software engineering; human language technologies; electronic engineering; expertise in the application of technologies in a developing world context; monitoring, evaluation and outcomes mapping; elearning, mlearning, pedagogical models, semantic web, tangible computing, HCI

Previous FP involvement: No

Consortium status: Partners in Finland (University of Joensuu, University of Art and Design, Helsinki)

Expertise sought: ICT in Education R&D, blended and multimedia environments, software and hardware engineering, pedagogical researchers, cognitive scientists, educational psychologists, anthropologists, teachers, developmental specialists, social scientists

Related projects: International bilateral cooperation

Title: Using advanced blended media platforms to provide life services to orphans and vulnerable children

Acronym: SINGAZENZELA

Submitted by:

Merryl Ford (mford@csir.co.za)

Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: R&D project, including technology demonstration (large scale)

Summary: The Singazenzela Programme is a fundamentally child-centric approach to service delivery that will extend the reach of mainstream national and local public and NGO organisations to the poorest and most vulnerable of Africa's children (urban and rural) using a systemic, innovative and appropriate blend of communication approaches. During the Inception Phase, we will explore, with a core group of African children and young people, how they can apply the benefits of belonging to a safe and trustworthy digital community to overcoming failures in their immediate physical community. Singazenzela is a metaphor for a better, child-centric world, where young people know they will find the support they need to face an increasingly austere, adult dominated real world. The Inception Phase will initiate a process of continuous child consultation that will drive all aspects of design, development and operation of Singazenzela. This process will guide the development of relevant knowledge around key life events. It will also help articulate the type of support services and access children value most. Service requirements and modalities will subsequently be defined by assembling a wide range of potential care and service providers in parallel adult Singazenzela fora. On the basis of this comprehensive and extensive consultation, a collection of trial Singazenzela services will be developed and piloted in South Africa and Lesotho. Feedback from the inception phase pilot will inform how Singazenzela will be further refined and adapted for use by other children and young people in the rest of Africa. Singazenzela will be based on an evolutionary, open platform accessible in online/offline sequences via any public network that reaches the most marginalised communities. This approach will ensure that Singazenzela will be highly scalable and transportable across countries, cultures and languages.

Expertise offered: ICT in Education research, development and innovation in a developing world context, ICT hardware and software engineering; human language technologies; electronic engineering; expertise in the application of technologies in a developing world context; monitoring, evaluation and outcomes mapping; elearning, mlearning, pedagogical models, semantic web, tangible computing, HCI

Previous FP involvement: No

Consortium status: Small, consisting of South Africa, UK and Lesotho

Expertise sought: ICT in Education R&D, blended and multimedia environments, software and hardware engineering, pedagogical researchers, cognitive scientists, educational psychologists, anthropologists, teachers, developmental specialists, social scientists

Related projects: None

Title: Bridging Cultural Divides for Collaborating Rural (Knowledge) SMMEs

Acronym: Bridges4Rural

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project, including technology demonstration (large scale)

Summary: Utilise the Rural Living Lab established in South Africa under the Collaboration@Rural IP of FP6 to continue designing, developing, testing and enhancing ICT Tools for the support of cross-cultural co-operation between collaborating knowledge intensive SMMEs in rural contexts within different countries (cultural contexts). This would be a logical extension of the current C@R project - that focussed on enhancing the "internal" collaboration within a single Rural Living Lab (RLL) to include enhancements for the cross-cultural collaboration within a regional context like SADC (South African Development Community). The project would focus on enhancing service delivery and collaboration to (and amongst) knowledge intensive SMMEs in different cultural contexts. This will be done in a manner that also addresses the collaboration needs of the "economic citizens" in rural areas. Cross-cultural collaboration could also be expanded to include RLLs in the "north" (Europe) collaborating w RLLs in the "south" (rural Southern Africa and similar economies in transition - including "south-south" collaboration w countries /cultures in eg. South America). Project would also explore the role, technologies and support that can be provided by a regional "back-office" environment in support of community level knowledge entrepreneurs in different cultural contexts.

Expertise offered: 12 Years of relevant research, development and implementation in developing ICT support for Rural Enterprise and Economic Service Delivery in South Africa. Involvement in (our own) network of Infopreneurs currently being deployed in rural South Africa. Currently exploring "south-south" linkages /collaboration between Southern Africa (Nambibia) and Argentina w Italian NGO CISP.

Previous FP involvement: Yes

Details of Previous FP involvement: FP6: Collaboration@Rural

Consortium status: Associate Partner of C@R with SAP Research SA as specific partners.

Expertise sought: Partners specialising in R&D concerning Social Impact of ICT Applications in rural contexts.

Related projects: FP6 South African national R&D programmes

Title: Open Source Software Adoption (South African Organisations)

Acronym: OSSAdoptSA

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: This project would ideally be part of extend a larger European empirical research programme that looks at adoption and implementation issues of Open Source Software (OSS) in organisational contexts. The aim would be to empirically explore migration issues, critical success factors, adoption barriers and enablers in a different societal context, namely South African organisations. The focus might be particularly on OSS-on-the-desktop. The research approach to be adopted is most likely to be case study driven with the aim of uncovering richer contexts as well as potentially conflicting stakeholder views within organisations. The unique contribution is that the economic and structural context is very different to that in Europe. South African organisations operate in a dual first/third world economy; yet they are relatively sophisticated innovators who readily deploy world-class information technologies. Sophisticated infrastructure is in place and the local markets are large, fast-growing yet relatively isolated and thus easier to study. On the other hand there is a strong pressure to compete internationally - both operating on international markets and facing international competitors on the local markets. Our empirical research would use similar research instruments and methodologies as those used by our European-based partners but extend the empirical findings and their validity by looking at differences and similarities when compared to European markets. Critically is that it might reveal any cultural bias in research which is important when considering the global market for European technologies. Another unique aspect of research OSS adoption in South Africa is the unique political and economic implications and role which OSS can have in developing world countries. This perspective would complement and validate any larger European OSS adoption research programme.

Expertise offered: We have already looked at critical OSS adoption factors in South African organisations in a few smaller research projects. The main method used was qualitative case study analysis. One of our research projects also proposed a small migration model to assist small businesses with the migration from proprietary to OSS.

Previous FP involvement: No

Consortium status: Partners sought - want to join an existing or proposed research group.

Expertise sought:

Related projects: None

Title: Adoption of Mobile Commerce by Southern African Consumers

Acronym: MComAdoptSA

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: This project would ideally be part of extend a larger European empirical M-Commerce adoption research programme by looking at specific critical success factors, adoption barriers & enablers in a different societal context namely Southern African consumers. M-Commerce would be understood to include any 3G and 3.5G services such as games download, mobile video, location services, mobile banking, full internet access and other services. The unique contribution is that the economic and structural context is very different to that in Europe. Consumers in Southern Africa are sophisticated innovators; the 3.5G infrastructure is in place and the potential market are large, fast-growing yet relatively isolated and thus easier to study. Our surveys would use similar instruments as those used by the European-based partners but extend the empirical findings and their validity by looking at differences and similarities when compared to European markets. Critically is that it might reveal any cultural bias in research which is important when considering the global market for European technologies.

Expertise offered: We have done several initial small-scale empirical research projects (100 to 300 respondents) of both a quantitative and qualitative nature. These include looking at traditional technology adoption models in the context of mobile gaming, mobile video, mobile banking and experimenting with various extensions such as the relative importance of trust and risk in adoption considerations. Additionally, the cost structure of conducting empirical research in South Africa is relatively advantageous when compared to Europe.

Previous FP involvement: No

Consortium status: Partners sought - want to join an existing or proposed research group.

Expertise sought:

Related projects: None

Title: Rural Wireless Mesh Infrastructure

Acronym: RURMI

Submitted by:

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Theme: Information and communication technologies

Focus Area: ICT Technology Pillars

Type of project: R&D project, including technology demonstration (large scale)

Summary: Large parts of the world is still unconnected, including most of Africa and many rural areas in Europe. Advances in infrastructure-less ad-hoc networks, and self-configuring and auto-healing infrastructures, enable new business models for establishing appropriate rural broadband infrastructures. One of the key technologies is mesh networks. It is proposed that a large scale R&D project is developed for addressing the rural broadband connectivity divide through directed research and development of appropriate wireless technology platforms and demonstrate (benchmark) with trials in rural areas.

Expertise offered: Current research includes: * Mesh protocol research * Cross-layer protocol research * Implementation of mesh protocols on FreeBSD and Linux platforms * Large scale mesh laboratory (Grid with 49 configurable nodes) * Trial mesh networks in typical isolated rural areas

Previous FP involvement: No

Consortium status: None existing.

Expertise sought: Seeking partners with interest in mesh technology, rural broadband and socio-economic business modellings.

Related projects: FP6 South African national R&D programmes

Title: Investigating the empowering potential of telecenters among the urban poor in the Western Cape

Acronym: EPT

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: R&D project (small scale)

Summary: The recent past has seen many developing countries adopting ICT as a means of fast tracking their national development. It is said that ICT has the potential of empowering people to enable them participate in national development. Since the majority of the people living in disadvantaged communities cannot afford their own ICTs, the use of community-based computing facilities (e.g. telecenters) to provide ICT access to the masses offers hope of realising that dream. Telecenters are often portrayed as a silver bullet for the development for the disadvantaged. To the contrary, research shows that adoption of telecenters in developing countries has not been satisfactory. In addition, there is lack of empirical evidence on how telecenters contribute towards empowering communities. There is an urgent need, therefore, to investigate whether indeed telecenters contribute towards social economic development. Such research would help inform stakeholders on how to maximise the return on the investment on telecenters. This research aims to investigate the impact of telecenters towards empowering communities to enable them undertake activities which would enrich their lives and hence contribute towards national development. The research undertakes to identify concrete telecenter-facilitated activities which can be described as development. The research will attempt to understand the underlying theories on how telecenters manage or fail to achieve such goals. The research will focus on the urban poor. We are of the opinion that the circumstances of the urban poor fundamentally differ from those of their rural counterparts in many respects. We are focusing on the urban poor because (1) Previous research on telecenters has focused on rural based telecenters leaving out a vast number of telecenters serving a growing urban population. (2) South Africa is experiencing high urbanisation rate and, therefore, the government is faced with the challenge on how to empower the growing urban population.

Expertise offered: Local knowledge, Qualitative research

Previous FP involvement: No

Consortium status: No organisation has indicated interest yet

Expertise sought: Interest in ICT for development, Qualitative research skills

Related projects: None

Title: Mechanisms to promote the participation of women and girls in the ICT domain

Acronym: WICT

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: Thematic network on specific research questions

Summary: Women and girls are typically under represented in the ICT domain. This is especially true of rural areas in developing countries. The project will investigate and test mechanisms through which the participation of rural women and girls in the ICT domain can be increased. Areas of interest include the design of ICT technology, nature of content and the human computer interface. Interventions other than the technology issues will also be investigated. These can include the establishment of technology clubs, introducing pre-school girls to ICTs and training for parents and teachers promoting ICT as an area which is suitable for girls and women. Of importance will be the exchange of learning between the project partners to facilitate an understanding of the issue in various cultures.

Expertise offered: Understanding of technology in rural areas. Track record of working in rural areas Experience in women in ICT related research Experience in technology design and content development Experience in multi-country, multi-stakeholder projects

Previous FP involvement: Yes

Details of previous FP involvement: ICT Africa project

Consortium status: Partners needs to be identified

Expertise sought: Previous Framework experience, involvement with and experience in gender related issues and ICT focussing on the participation of women and girls

Related projects: South African national R&D programmes

Title: Enhanced geospatial tools for rural collaboration.

Acronym: EdGeTFRC.

Submitted by:

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: Networking between organisations in same area

Summary: During the last decade rural areas have been receiving more attention from the broad international development community. Rural areas present their own unique problems that require a different approach to solutions often applied within the urban domain: These include long distances, low bandwidth, low supply chain values etc. The prevalence of Information and Communication Technologies (ICTs) within this context is presenting opportunities to serve rural areas previously excluded from participating in regional and global economies. During the sixth round of the Framework Programme the CSIR became involved in the Collaboration at Rural (C@R) Initiative. The C@R project proposed a complete set of research activities and tasks which will identify develop and validate technological responses to actual barriers jeopardizing the sustainable development in rural areas. One of the components of the C@R approach is to utilize Rural Living Labs (RLL) as innovative research instruments involving rural users. Several RRLs have been implemented in Europe and also in South Africa. This project proposes two additional components not dealt with in most RRLs namely a) dealing with low-bandwidth environments and b) geospatial supply-chain profiling. Several technologies are emerging that can contribute to improved collaboration and economic development. This includes the growth of open source software as well as the large scale adoption of mobile phones to name only two main examples. It is envisaged that appropriate geospatial profiling tools be developed to assist in the discovery of potential collaboration opportunities related to such environments. Several institutions are pursuing work in the geospatial domain namely CSIR Built Environment, MERAKA Institute, the Faculty of Geosciences (Utrecht University), University of Dortmund and the Technical University of Delft.

Expertise offered: CSIR and the MERAKA Institute have extensive experience in conducting rural research and in exploring appropriate technologies given the local rural development challenges. This expertise can however be extended to include other rural domains. Expertise includes: - Geospatial Analysis and Application development - Open Source Solutions and Open Standards approaches - Rural Development Planning - Rural Transport Planning - Rural Gender Research - Rural Strategy Development - Integrated Development Planning - Systems development

Previous FP involvement: Yes

Details of Previous FP involvement: FP6 - Collaboration @ Rural: Participating partner.

Consortium status: Current consortium includes: CSIR and MERAKA Institute. Discussions held with Utrecht University and Delft University.

Expertise sought: Seeking European partners with the following expertise: Rural development research; Open Source development; and institutions involved in technology application.

Related projects: FP6

Title: Intelligent Environments for Independent Living**Acronym:** IE4IL**Submitted by:**

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Theme: Information and communication technologies**Focus Area:** Integration of Technologies**Type of project:** R&D project, including technology demonstration (large scale)

Summary: In developing countries the 'physically challenged', including persons with disabilities and the elderly, comprise approximately 20% of the population, while the growing elderly population in European countries has attracted major research considerations. For all of us, even a temporary condition will soon make us realise that the modern world is not designed to accommodate people with restricted movement, an inability to lift or stand, or who have hearing, sight or cognitive limitations. Disabled people and the elderly have specific needs and abilities (making up their user profile) and lives in environments not suitable or adapted to them. In Europe, an elderly person with reduced mobility and health, is confined to his/her home, within an environment consisting of narrow staircases, no supervision, and potential emergency situations (heart attack, etc.). While a disabled person in South Africa faces obstacles in the environment including language, illiteracy, mobility, access and marginalisation from society. All of these contribute to barriers that embodies a gap between their current user and environmental profile, and integration into society and the economy. This proposal aims to bridge this gap through the research into innovative technology, in an approach that includes the people (social engineering and user profiling), their environments (intelligent capacity and universal design) and technology (ubiquitous computing). This means designing architectures (physical and virtual) and technologies and integrated systems/environments that intelligently monitor, identify, track, reason, adapt to and interact with the user. The scope of the proposal includes the establishment of a research consortium that will develop a collaborative research programme that make up the various streams of an Intelligent Environment that can perceive the user (sensor technology), understand the context of the user (context awareness), reason about possible actions (artificial intelligence), and adapt the environment (human computer interaction) accordingly.

Expertise offered: Institutions, included in this proposal, from Finland, France, Belgium, Italy and South Africa offer expertise in the following areas: HCI, Accessibility and Usability, Ergonomics and Anthropometrics, Remote and wireless tracking, Industrial Design, Intelligent Buildings, Social Engineering, Tele-Medicine and Ubiquitous computing; Artificial Intelligence, Signal Processing.

Previous FP involvement: Yes**Details of Previous FP involvement:** FP4 and FP6

Consortium status: There is currently no formal consortium. A network of partners having various research expertise and experience both from across Europe (Italy, France, Belgium and Finland) and South Africa have agreed to be participants in this proposal.

Expertise sought:**Related projects:** International bilateral cooperation South African national R&D programmes

Title: Tangible learning objects

Acronym: TLO

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Theme: Information and communication technologies

Focus Area: Applications Research

Type of project: Networking between organisations in same area

Summary: The designing and developing of physical/tangible learning objects ("intelligent e-toys") that assist learning and teaching. Objects have "intelligence" built into them, enabling them to communicate with and exchange information between them about the person using them. The objects can also exchange information with other devices that have more processing abilities. Objects have sensors and actuators built in, enabling them to sense how the person manipulates them, and actuators to respond to the manipulations. Sensors include sound, visual, thermal, and vibration. Actuators include audio, visual and vibration.

Expertise offered: Knowledge of the challenges facing learning and teaching in developing countries.

Previous FP involvement: No

Consortium status: An existing relationship with the University of Joensuu, Finland to establish a Kids' Club in South Africa.

Expertise sought: Expertise is sought in embedding electronic devices in physical objects to appear as toys.

Related projects: None

Title: Web-based monitoring and management information system in poor bandwidth environment

Acronym: MONMIS

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Theme: Information and communication technologies

Focus Area: Integration of Technologies

Type of project: Thematic network on specific research questions

Summary: An internet accessible database system utilising open source components (MySQL, XML, etc), is being successfully utilised to track, report on and provide management decision support on drinking water quality at local authority (municipal) level throughout South Africa. The system is specifically designed to not only allow for dynamically updated standard reporting against specifications, but also guides the decision maker in understanding the implication of non-compliance and what management interventions are required to resolve the non-compliant aspects. The system is accessible via the internet for full use providing considerable costs and operational efficiency benefits over local application based systems. However the system can also be used as an independent local application if required. Current functionality includes: o Management Dashboard [summarised monthly view of legislative compliance & identification of areas requiring urgent attention; easy colour coding to show compliance (green), failure within Class 1 (yellow), and failure within Class 2 (red)]. o Overview (map-based interface with "period based" summary of key indicators). o Quick Analysis (quick links to regularly used operational efficiency and legislative compliance tables/graphs and trend analysis) o Detailed Analysis (dynamic Tables and Graphs with full flexibility) o Reports (archive of management reports in Adobe Acrobat format). o Data Entry - (mostly via internet and/or Excel and can be adapted to link to existing systems for specific clients) o Automation (auto-notification by e-mail of failures, generation of auto-reports and summary reports for feedback to the full range of participating parties) The intention is to adapt the system to allow compliance monitoring applications throughout Africa. This system allows research results to be disseminated to the user in a simple, efficient and effective way thereby assisting and guiding managers that are often not technically or scientifically qualified to take important decisions.

Expertise offered: Practical expertise in the development and implementation of compliance monitoring and management systems in developing countries where local management experience is lacking and low bandwidth exists. Specialist applications to Drinking Water Quality Management.

Previous FP involvement: No

Consortium status: Seeking partners

Expertise sought: Any specialist application where a stand-alone compliance monitoring and management system needs to be developed and/or installed.

Related projects: South African national R&D programmes