

Building International Co-Operation. Strategy for Coordination of Cross Domain Activities & Multi-Lateral Approach in International Cooperation.

BIC/DIMACS/A4Cloud/CSA International Workshop on
Trustworthiness, Accountability & Forensics in the Cloud (TAFC2013)
Malaga, Spain, Friday 7th June 2013

Andrew Hutchison

andrew.hutchison@t-systems.co.za

acmhutchison@gmail.com

+27 83 303 2387



Workshop Focus

- ◎ Cloud computing as a “game changer”
 - e.g. EU economy
- ◎ Challenges :
 - standards, certification, data protection, interoperability, lock-in, legal certainty
- ◎ How to enhance trustworthiness in the cloud ...
 - Technical & policy mechanisms to enable them
- ◎ Discuss how public, private & research communities can increase confidence in use of cloud computing
 - Ongoing research work; future research challenges – H2020

Policy, Ethics and International Collaboration

- ◎ Privacy, ethics and accountability
- ◎ Trustworthy host platforms for accelerated research & education
- ◎ Strategy for co-ordination of cross domain activities & multi-lateral approach in international cooperation

BIC and South Africa 'so far'

- ⦿ Continually **building up our contact base** in South Africa.
- ⦿ In the first years, working groups focussed on technical aspects of network information & cyber security and human oriented approaches for trust, privacy and security and continue to work on these (aligning research topics between the countries).
- ⦿ The point of this to **give guidance to Commission** where they should have **research funding for joint international collaborations** in **Horizon 2020**, the next research programme for 2014 - 2020.
- ⦿ In parallel, now **building up a group** focussing on a longer term strategy including logistical aspects, including the necessary models, mechanisms and processes required for the enablement of international cooperation.

Brief ...

- ◎ Focus not only on **current field of research** but also dedicate some time on what you feel is the necessary future research challenges and work required
 - one of the objectives of the workshop is to **highlight areas where consortia can be formed in Horizon 2020** and other programmes.
 - **how international cooperation could benefit this research work in the future**, highlighting specific reasons and rationales for it.

University of Cape Town Campus





WELCOME TO THE UNIVERSITY OF CAPE TOWN

WAMKELEKILE WELKOM

ABOUT THE UNIVERSITY

FACULTIES & DEPARTMENTS

RESEARCH & LIBRARIES

APPLYING TO UCT

CURRENT STUDENTS

CONTINUING EDUCATION

SERVICES & OPERATIONS

ALUMNI & DEVELOPMENT

CALENDAR & EVENTS

NEWSROOM & PUBLICATIONS

DONATE TO UCT



OPEN CONTENT



KNOWLEDGE CO-OP



RESEARCH

Quick Links

Adjust text size **A** **A** **A** | Print

Newsroom & publications ▾ | Daily news ▾ | Today's news

NEWSROOM & PUBLICATIONS

Daily news

[Today's news](#)

[Daily news archives](#)

[Byte-size news archive](#)

[Celebrating 125 years of women on campus](#)

[Search Daily News & Archives](#)

[Contact us](#)

Today's news

UCT gets the nod as 3rd most beautiful university

10 September 2012



Picture perfect: It was UCT's mountain setting that clinched it the 3rd spot on The Telegraph's list of most beautiful universities

British newspaper *The Telegraph* chose UCT as the third most beautiful university in the world. Oxford University was first followed by Harvard.

In the photo gallery showcasing the 16 most beautiful universities on the newspaper's website, the university's "mountain setting" is praise above its architecture.

UCT is the only African university to make it onto the list, which includes one of the oldest universities - in Bologna, Italy - in the world. The photo gallery is dominated by European universities.

In what some might consider a slightly ironic twist UCT, which in the apartheid era was known as "Moscow on the Hill", is one place ahead of the actual Moscow State University. The university, which is the oldest South African tertiary institution and an African leader in teaching and research, moved to the grounds it currently occupies in 1928, where it celebrated its centenary. The land was donated by Cecil John Rhodes and used to be part of his Groote Schuur estate.

View the [gallery of the 16 most beautiful universities](#).



2011 IN PICTURES

[Subscribe to RSS](#)

[Search Daily News](#)

[Share](#) |

See you
in Switzerland

Visual-
ising it!

**Communications –
Technology that Unites Nations**

International Conference on Communications
ICC'93, May 23 – 26, 1993, Geneva/Switzerland



ICC'93 
GENEVA

ascom

Sponsor



Universität Zürich ^{UZH}



bookshelf



uni zürich

Magazin der Universität Zürich • Nr. 178



Informatik.
Wirklichkeiten modellieren

Kurt Baumann

Von
Teil-Ing. Dr. Helmut Helber

Pressebildnisse zur Verfügung gestellt von www.unizh.ch

Über Kurt Baumann informiert die www.unizh.ch

Wenn Univ.-Prof. Dr. Dr. h.c. Kurt Baumann ist einer der Kapitäne der Informatik in der Schweiz und hat als zentrale Persönlichkeit der Schweizer Informatik diese Wissenschaftsbüchse als Wissenschaftler, Manager, Journalist und Musiker markiert.

Während seiner Karriere hat Kurt Baumann viel mit Informatik zu tun gehabt. Er ist Informatiker, Manager, Journalist und Musiker. Kurt Baumann ist einer der Kapitäne der Informatik in der Schweiz und hat als zentrale Persönlichkeit der Schweizer Informatik diese Wissenschaftsbüchse als Wissenschaftler, Manager, Journalist und Musiker markiert.



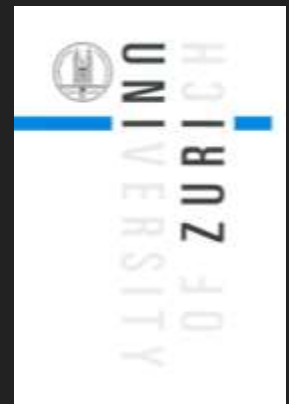
© 2012 Baumann

Informatik: An der Praxis orientiert

Das Zentrum für Informatik an der Universität Zürich ist ein Zentrum für Informatik, das sich auf die Praxis orientiert. Es ist ein Zentrum für Informatik, das sich auf die Praxis orientiert.



Das Zentrum für Informatik an der Universität Zürich.



Grüezi@UZH



IBM

www.ibm.com

**IBM Research GmbH
Zurich Research Laboratory**

Information Security as focus area ... IBM ZRL

DIGITAL LIFE

Tuesday, April 11, 2006 The Zimex 21

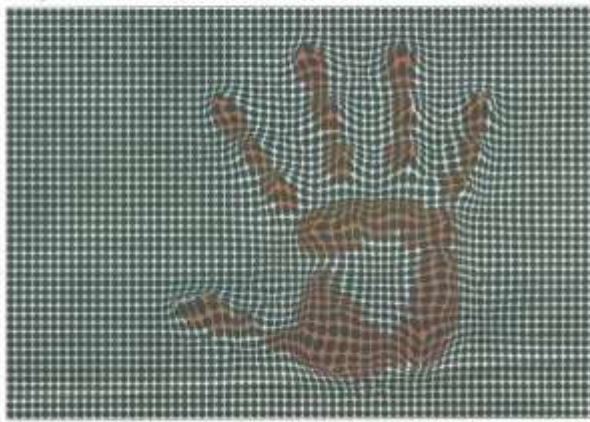
Identity thieves lurk online

Who you are in cyberspace is worth a lot to criminals, writes Toby Shapshak

How much are you worth? That's how much to your identity thieves are worth.

Other criminals see not just how to steal your banking details but also your credit cards. They are trying to steal your identity. They are trying to steal your money in their names as well — in it use your identity about the internet, they are trying to steal your money, or worse, they are trying to steal your identity. Back that they have managed to do it a few years ago or so.

Worth of average user is \$11,650, of which \$2,000 is cash.



"On the Internet, nobody knows you're a dog."



Charles Barsotti

"I can't explain it—it's just a funny feeling that I'm being Googled."

© The New Yorker Collection 2002 Charles Barsotti from cartoonbank.com. All Rights Reserved.



CYBERSECURITY

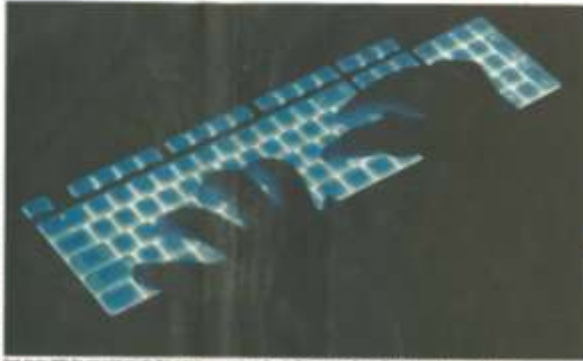
FINANCIAL TIMES SPECIAL REPORT | Thursday, June 2, 2010

Threats pile up in war that never ends

Intensifying cyber wars while aerial interlocking and missile defenses are adding to worries, says Joseph Stiles

For some time now, the world has been in a state of perpetual cyber war. It is a war that is not fought with bullets and missiles, but with code and algorithms. The stakes are high, as cyber attacks can cripple infrastructure, steal sensitive information, and even threaten national security. The threat is constant and evolving, with new attacks being discovered every day. The world is now a more dangerous place than ever before, and the war is far from over.

The threat is constant and evolving, with new attacks being discovered every day. The world is now a more dangerous place than ever before, and the war is far from over. The threat is constant and evolving, with new attacks being discovered every day. The world is now a more dangerous place than ever before, and the war is far from over.



God of gods
Joseph Stiles reports why the world is in a state of perpetual cyber war. Page 4

Inside
The world's most secure...
Page 2

Microsoft shows
...
Page 3

Google
...
Page 4

Communication
...
Page 5

More on IT
...
Page 6

Security
...
Page 7

Mobile technology, cloud computing and social media
...
Page 8

The threat is constant and evolving, with new attacks being discovered every day. The world is now a more dangerous place than ever before, and the war is far from over. The threat is constant and evolving, with new attacks being discovered every day. The world is now a more dangerous place than ever before, and the war is far from over.

Mobile technology, cloud computing and social media.

Hacktivists look to the 3rd world



Internet
Hacktivists are increasingly turning to the developing world for their operations. They are targeting infrastructure and services in countries like Iran, India, and China. This is a significant shift in the focus of cyber warfare.

Brief history of hacktivists
The term 'hacktivist' was coined in the late 1990s. It refers to individuals who use their computer skills to promote a political or social agenda. This movement has grown significantly over the years, with groups like Anonymous and WikiLeaks becoming prominent.

How Stuxnet Spreads

Experts who have disassembled the code of the Stuxnet worm say it was designed to target a specific configuration of computers and industrial controllers, likely those of the Natanz nuclear facility in Iran.

INITIAL INFECTION

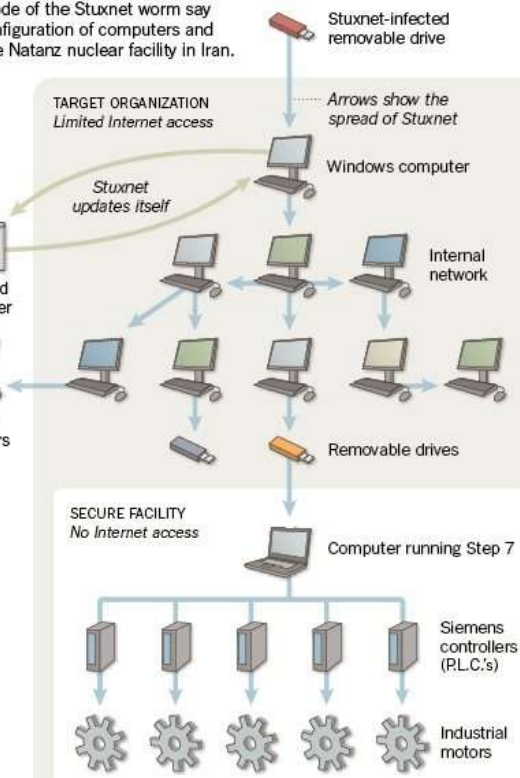
Stuxnet can enter an organization through an infected removable drive. When plugged into a computer that runs Windows, Stuxnet infects the computer and hides itself.

UPDATE AND SPREAD

If the computer is on the Internet, Stuxnet may try to download a new version of itself. Stuxnet then spreads by infecting other computers, as well as any removable drives plugged into them.

FINAL TARGET

Stuxnet seeks out computers running Step 7, software used to program Siemens controllers. The controllers regulate motors used in centrifuges and other machinery. While the computers in a secure facility may not be on a network, they can be infected with a removable drive. After infecting a controller, Stuxnet hides itself. After several days, it begins speeding and slowing the motors to try to damage or destroy the machinery. It also sends out false signals to make the system think everything is running smoothly.



Cape Sun Hotel



Table Mountain Cable Car



Cape Winelands



Cape Town
awaits you!

The Waterfront





Wherever You Will Go The Office Das isch Züri

24
102.8

1676

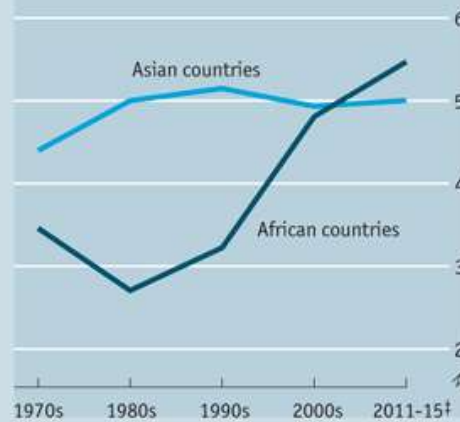
Our South African reality ..

World's ten fastest-growing economies*
Annual average GDP growth, %

2001-2010†		2011-2015‡	
Angola	11.1	China	9.5
China	10.5	India	8.2
Myanmar	10.3	Ethiopia	8.1
Nigeria	8.9	Mozambique	7.7
Ethiopia	8.4	Tanzania	7.2
Kazakhstan	8.2	Vietnam	7.2
Chad	7.9	Congo	7.0
Mozambique	7.9	Ghana	7.0
Cambodia	7.7	Zambia	6.9
Rwanda	7.6	Nigeria	6.8

Sources: *The Economist*; IMF

GDP growth, unweighted annual average, %

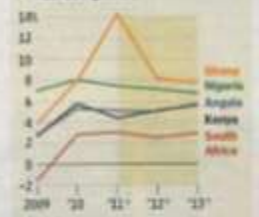


*Excluding countries with less than 10m population and Iraq and Afghanistan †2010 estimate ‡Forecast

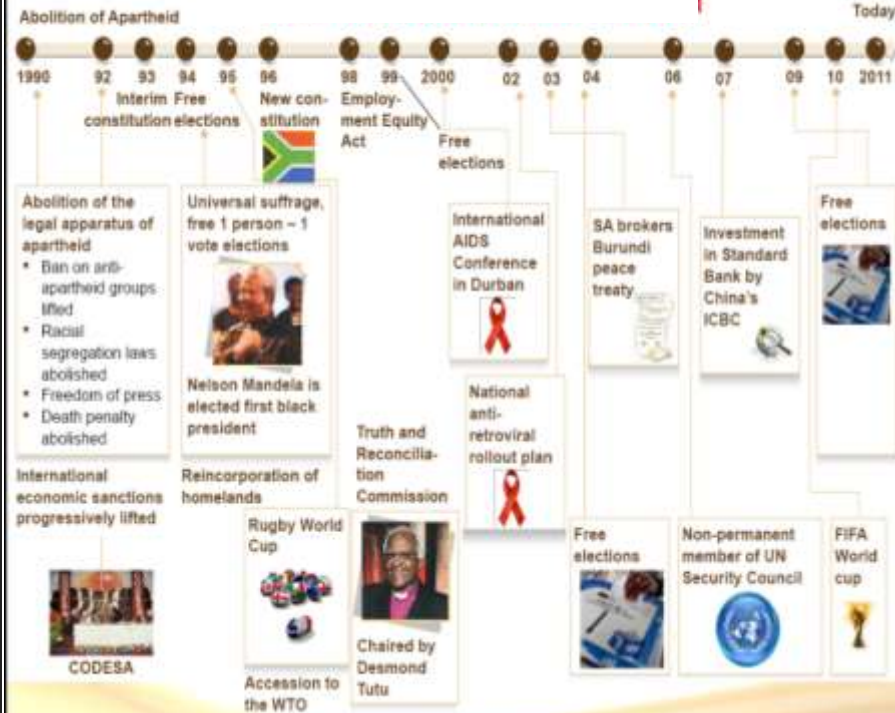


Lagging Behind

South Africa's economy is growing more slowly than its African neighbors. Annual GDP growth.



South Africa has undergone a political miracle over the last 2 decades



Nine key challenges stand in the way of eliminating poverty and reducing inequality

- 
1. Too few South Africans work
 2. The quality of school education for most black people is sub-standard
 3. Poorly located and inadequate infrastructure limits social inclusion and faster economic growth
 4. Spatial challenges continue to marginalise the poor
 5. South Africa's growth path is highly resource-intensive and hence unsustainable
 6. The ailing public health system confronts a massive disease burden
 7. The performance of the public service is uneven
 8. Corruption undermines state legitimacy and service delivery
 9. South Africa remains a divided society

Tackling these challenges will require the involvement of all South Africans and coordination and cooperation across society and government

SA lagging behind in doctorates

GERSHWIN CHUENYANE

SOUTH Africans are not opting to study to doctoral level, according to the National Research Foundation.

This has resulted in South Africa lagging behind other emerging economies.

Only 27 in 1 million South Africans have a doctorate compared with 42 in Brazil, 172 in South Korea, 240 in Australia and 259 in the UK.

~~"We are certainly seeing more people with MBAs, but a lot of~~

people are stopping at that level," said Georgina Barrick of Renwick Talent, a recruitment agency.

Natalie Fraser of the Association of Personnel Service Organisations, which represents the recruitment industry, blamed the education system for the low number of doctorates

"Of those leaving university with a degree, many have only just scraped through and would not be invited to continue with honours, much less a master's or a doctorate," she said.

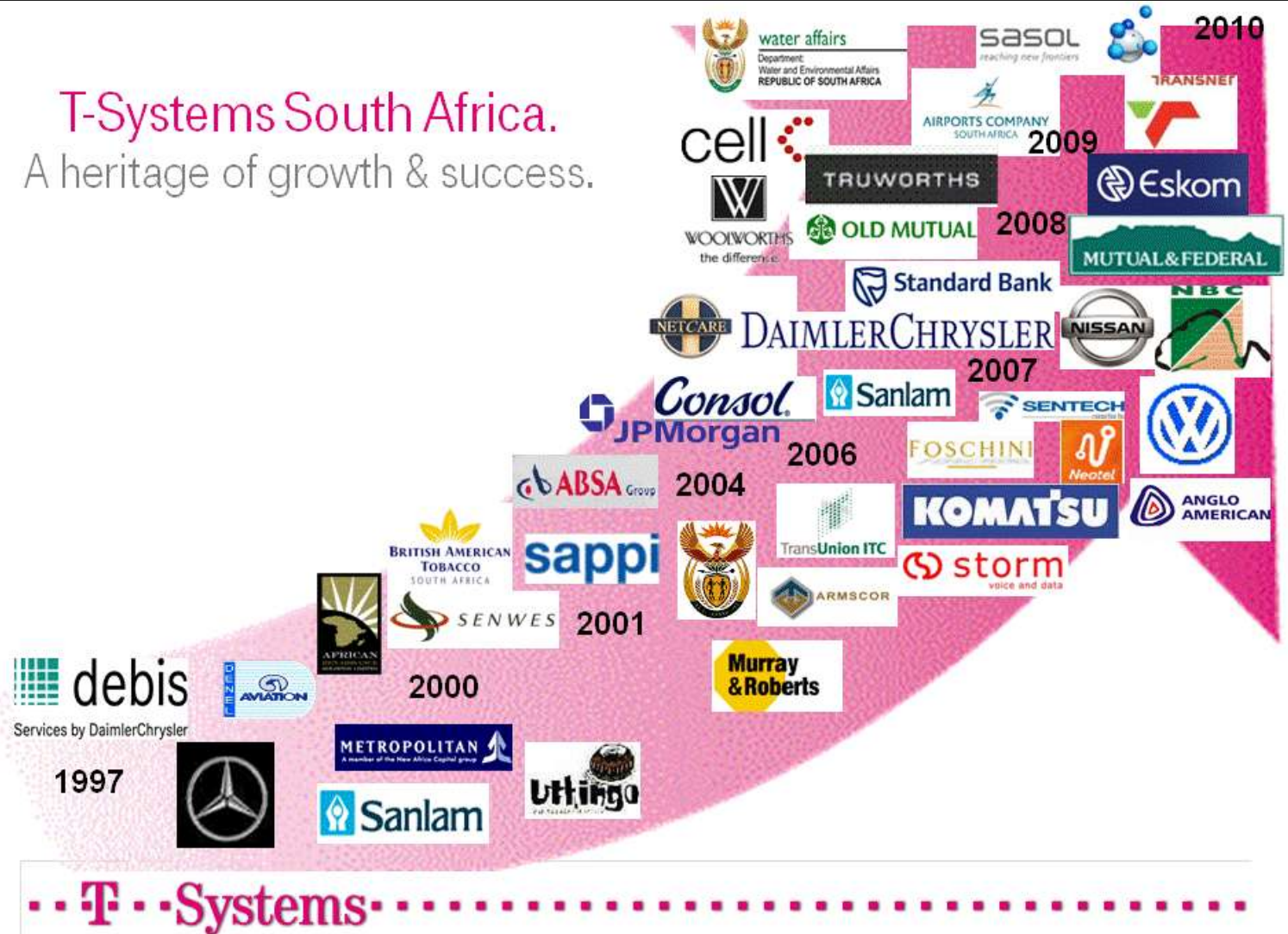
"Industries that require researchers and similar theoretical people would probably place higher value on a doctorate-level qualification than a company looking for a managing director or chief executive," she said.

Professor Mamokgethi Setati of the University of South Africa said: "Fifty percent of growth in the US in the past 40 years was due to research and development. For example Silicon Valley, California, was the result of cutting-edge research that came out of the state universities."

CITY PRESS 15/6/0

Left UCT full time faculty & joined T-Systems SA in 2002

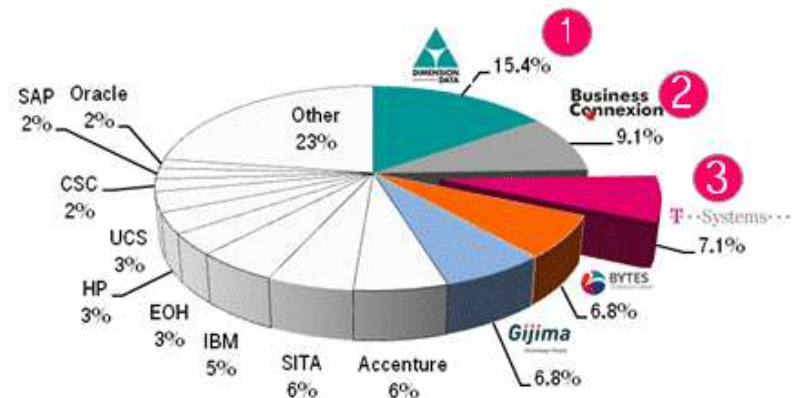
T-Systems South Africa.
A heritage of growth & success.



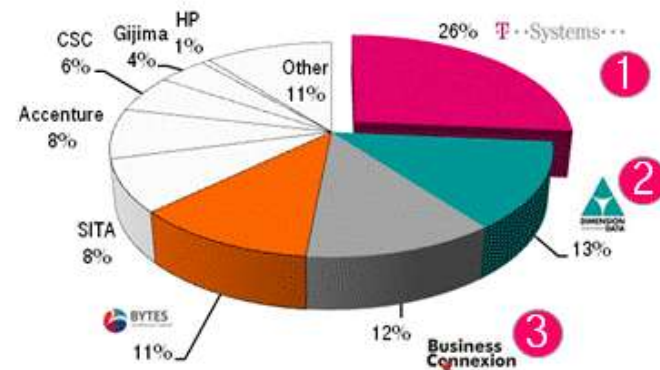
Part of a growing company in South Africa

- T-Systems grew from 500 people in 2000 to 2500 in 2012
- Largest full ICT service outsourcer in South African market
- Supporting key SA enterprises like Eskom, Transnet, SASOL, DWA etc

Overview of Total ICT Services Market



Full ICT Outsourcing Market



Source: BMI Techknowledge : SA IT Services Market Sizing and Forecast 2010 - 2015 T-Systems SA (Pty) Ltd -12/2011



UCT Research Group



Our Vision

As the Data Network Architectures group we pursue international **research excellence** and **local industry relevance**, while facilitating the **professional growth of members** of the group.



DNA alumni – last 9 years only

- 14 Honours students
- 21 MSc graduates
 - 4 with distinction
 - 6 studied further to attain PhD at
 - University of Zurich (2)
 - Imperial College, London
 - Oxford University
 - Technical University of Berlin
 - Institut National des Telecommunications
- 2 PhD graduates

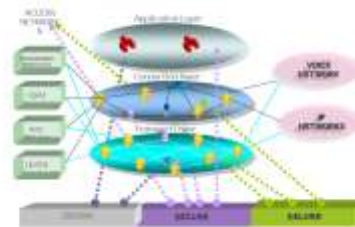


Core competences

The success of our projects rely on the DNA Group skill set which has its key strengths in:

- Formal Methods
- Software Engineering
- Computer Security

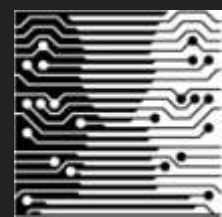
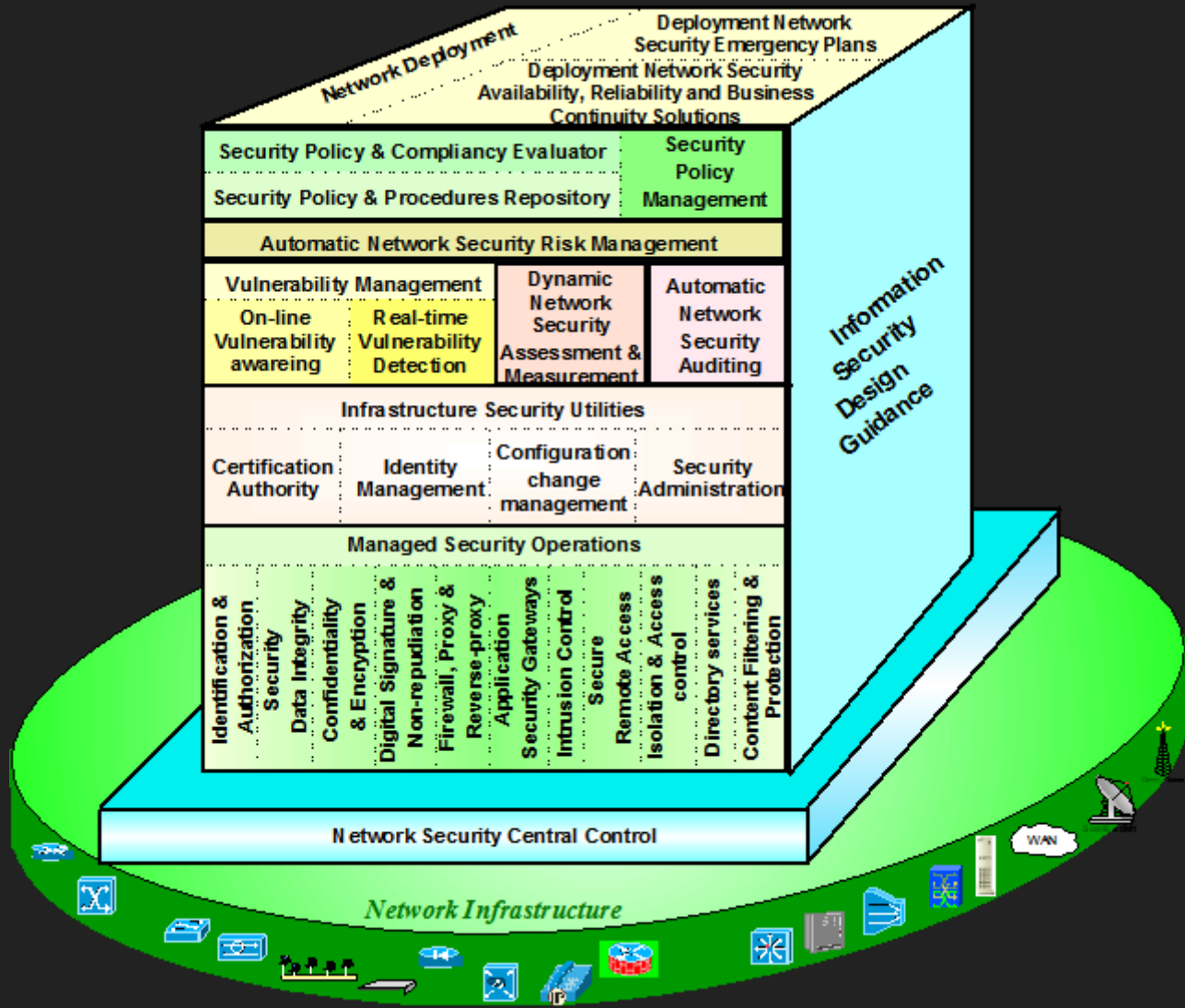
Where we do it



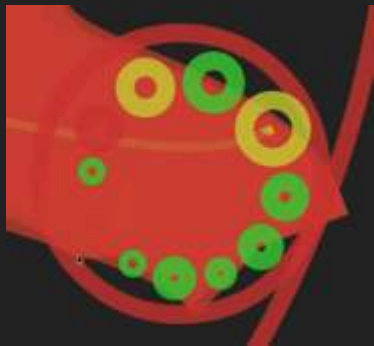
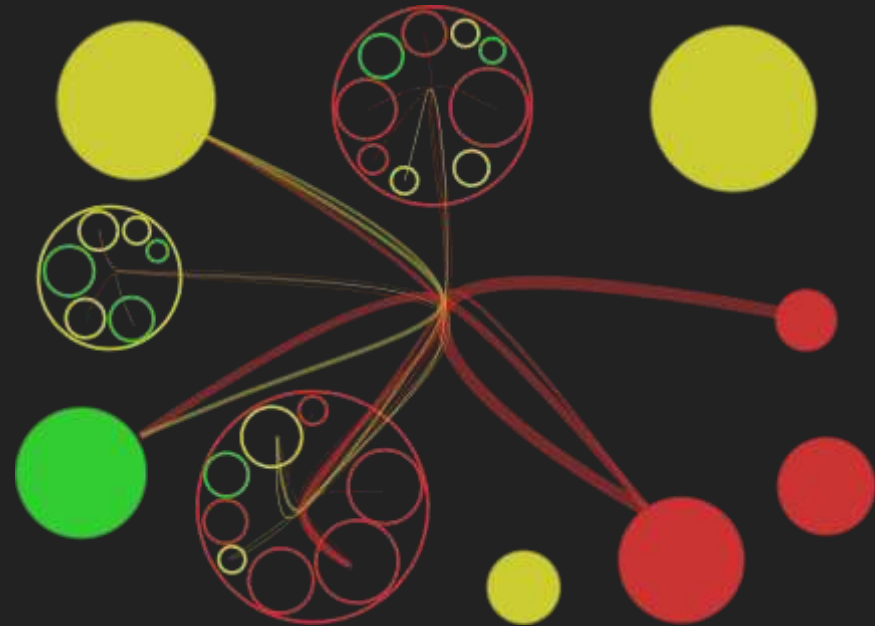
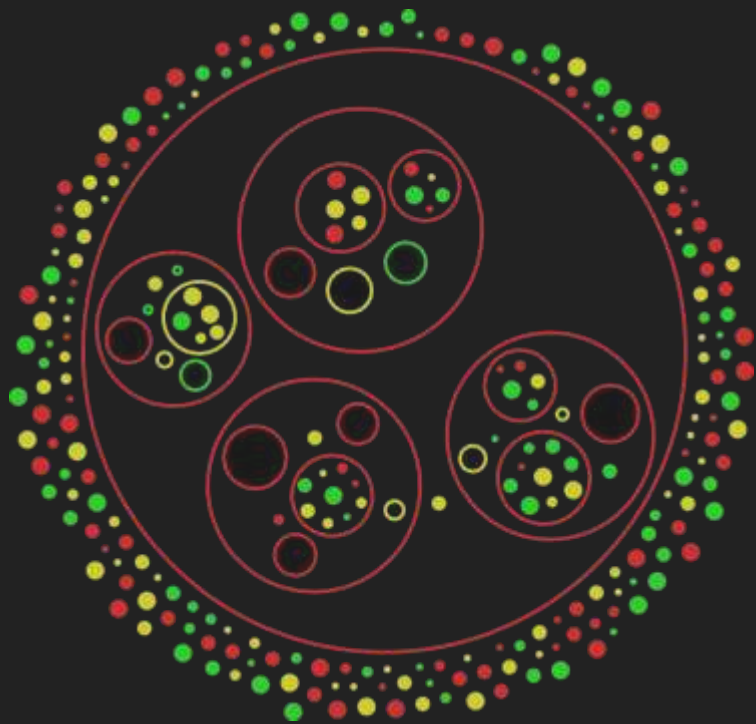
DNA Alumni in 10 countries of the world



Network Security Framework



2012 Security Visualisation



Security as one of 'core beliefs'

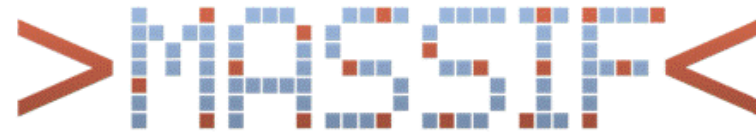
Based on the major challenges of our customers and society, we have established five **Core Beliefs**.



... T-Systems ...



...sting attributes to the Free State:



Management of Security information and events in Service InFrastructures

2010-10-01 to 2013-09-30

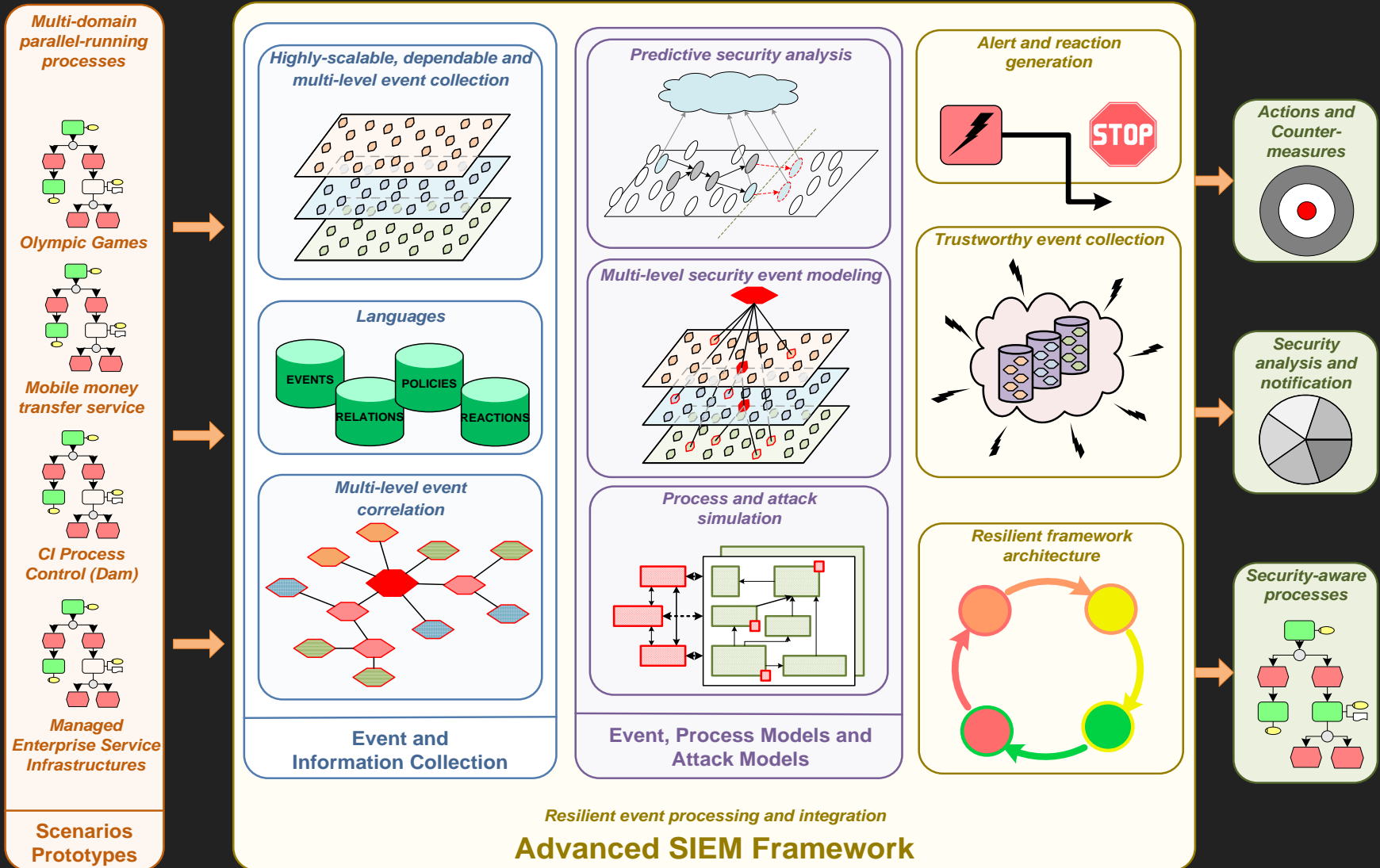
www.massif-project.eu



Project funded by the European Commission
ICT workprogramme 2009 (FP7-ICT-2009-5)

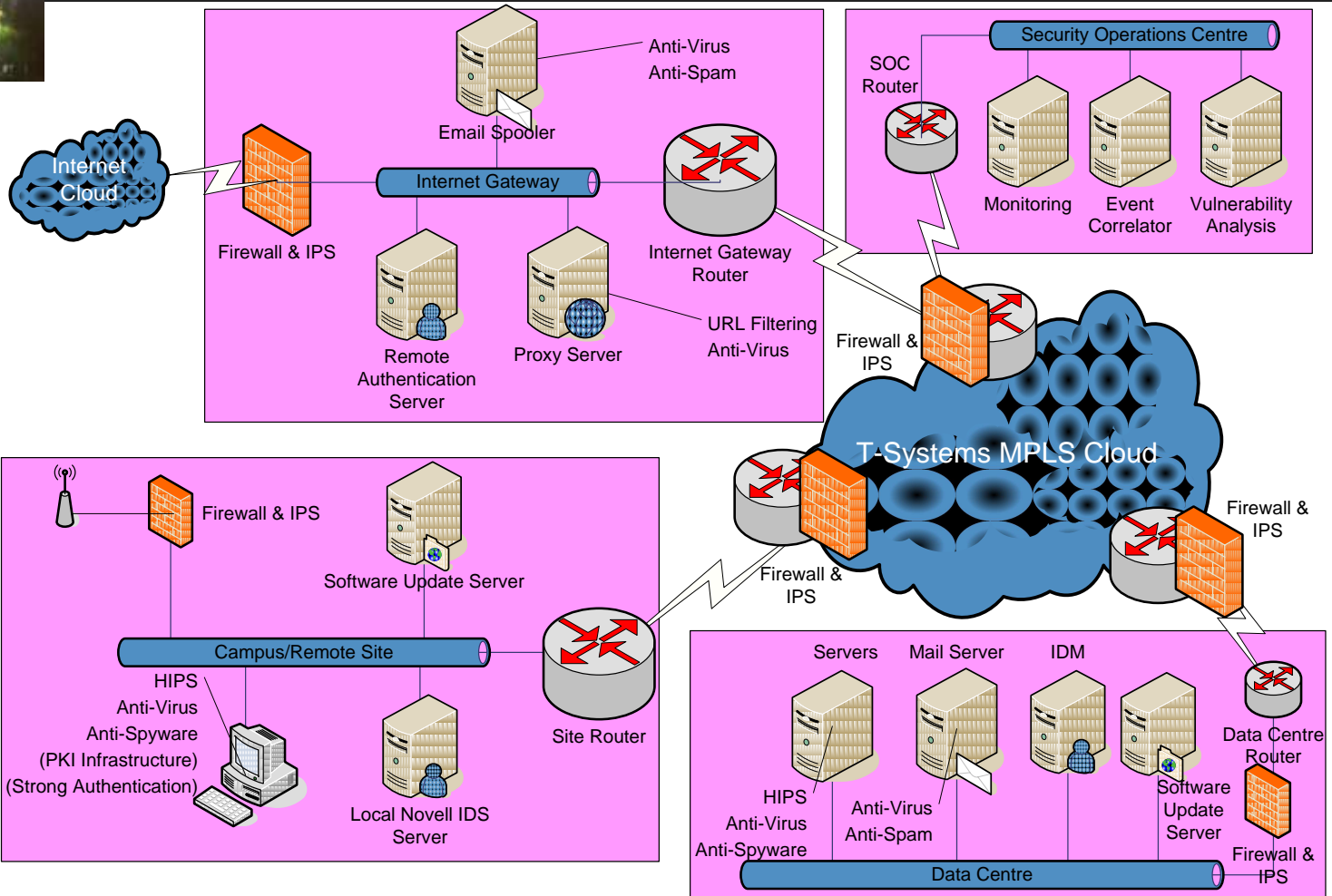


MASSIF: overview





Managed Enterprise Service Infrastructures



Think tanks of Deutsche Telekom.

T-Gallery

- Future forum of Deutsche Telekom
- Scenarios for future **connected life an work** form an **end-user perspective**

more than 100 prototypes for connected life an work

Focus:
Show innovations form an end user perspective

Deutsche Telekom Laboratories

- Dedicated to **research and development** for Deutsche Telekom
- International cutting-edge research of new technologies

1 paper / day
1 patent / week
1 award / month
1 Spin off / year

Focus:
Group wide **research and development** of innovative technologies

T-City Friedrichshafen

Wir leben Zukunft.

- Joint **future lab** of Deutsche Telekom and the city of Friedrichshafen
- The world of tomorrow in a real life environment.

more than 30 future projects

Focus:
Innovative solutions for connected life and work in a real **life environment**.

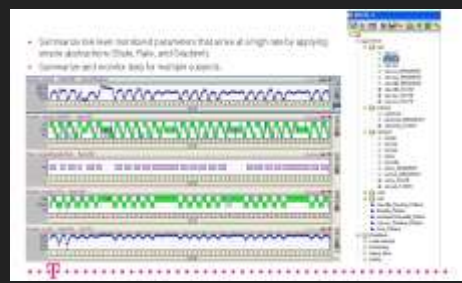
Systems Innovation Center

- Experience** innovation
- Open innovation** with customers
- rapid prototyping**

more than 70 customer workshops since 09/2010

Focus:
Prototyping lab for Deutsch Telekom's **corporate customers**

T-Labs „Anomaly Detection and Early Warning System“ (ADEWaS) Project.



Systems

T-Labs „Purenet“ Project.

T-Labs „Model Driven Security Development“ (MDSD) Project.

T-Labs „Enhanced Database Security & Services (EDSS)“ Project.



Why South African co-operation is desirable?

- ◉ Sometimes viewed as a “field trial” !
- ◉ Smaller market
- ◉ Close(r) to clients
- ◉ Open-ness to change
- ◉ Like to be early adopters (e.g. pre-paid electricity & mobile, ATMs, Internet banking etc)
- ◉ Willingness to take calculated risks (less punitive regime?)

Founding of a South African industry / academic lab ...



UNIVERSITY OF CAPE TOWN

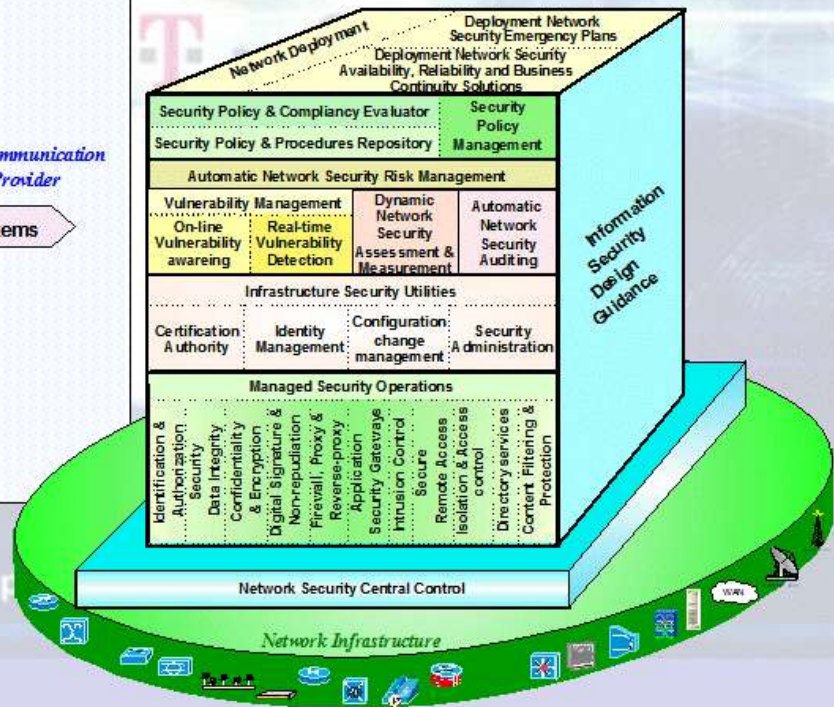
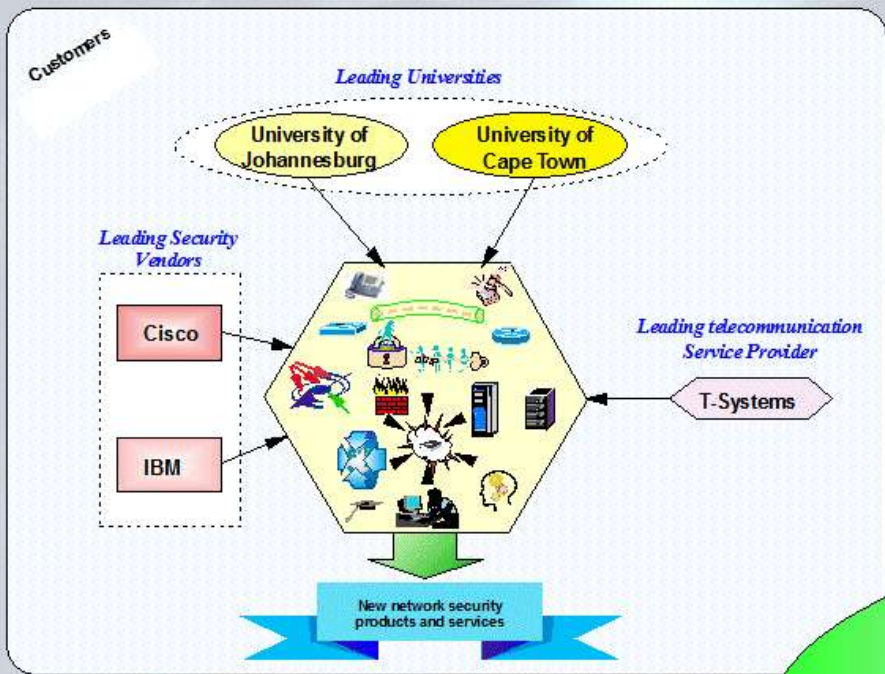


UNIVERSITY OF JOHANNESBURG



T-Systems

South African Laboratory for Network Security Products and Services



You are invited to a top



Newspaper Print Quality

Laboratorium fokus op veilige netwerke

JANA MARAIS

JOHANNESBURG. – Nouer samerking was tussen die inligtingsteunologiese bedryf en akademië met die stigting van 'n laboratorium wat die insette van beide partye vereis.

Die tegnologiegroep T-Systems het vandeesweek die laboratorium – wat spesifiek sal fokus op sekuriteitsprodukte en diensite vir netwerke – hier bekend gestel.

Navoring sal ook oor ander sekuriteitsverwante aansoekstelsels gedoen word.

“Ons opeik uiteindeelik 'n netwerk wat 'n virusaanval kan interpreteer en die oorsake daarvan kan opspoor sonder dat menslike inmenging nodig is,” sê mr. Mark Ruppel van Cisco SA.

Nagraadse studente in inligtingsteunologie sal met rolspeleers in die bedryf saamwerk. Terwyl hul navoring deel sal uitmaak van hul kwalifikasie, sal dit relevant en aansoeksaar wees om aan behoeftes in die praktyk te voldoen.

Die laboratorium sal teoretiese navoring en ontwikkeling, praktiese toetsing en prototipering en praktiese ontwikkeling deur tot op die vlak waar die konsep bewys is en dit verder deur die bedryf ontwikkel kan word.

Dit sal in Johannesburg geleë wees en sal 'n tak in Kaapstad.

SAKE VELD
01 Sep 2005
Page : 23 #



The laboratory will be based in Johannesburg and will have a branch in Cape Town.

IT-sektor en akademië vat hande

Die IT-sektor en akademië vat hande om te werk aan 'n nuwe generasie IT-vaardighede vir die toekoms. Die IT-sektor en akademië het 'n samewerkingsooreenkomsing geteken om te werk aan 'n nuwe generasie IT-vaardighede vir die toekoms. Die IT-sektor en akademië het 'n samewerkingsooreenkomsing geteken om te werk aan 'n nuwe generasie IT-vaardighede vir die toekoms.

Die IT-sektor en akademië vat hande om te werk aan 'n nuwe generasie IT-vaardighede vir die toekoms. Die IT-sektor en akademië het 'n samewerkingsooreenkomsing geteken om te werk aan 'n nuwe generasie IT-vaardighede vir die toekoms.

(BUSINESS DAY NATIONAL COMPANY NEWS

01 Sep 2005
Page : 30 #

Network security think-tank

A think-tank to improve network security was launched in SA this week to conduct research and share knowledge for the benefit of all companies.

The research and development team will lead to the development of security products and solutions which will be developed into commercial products.

RESEARCH New lab ups security ante

Universities and industries combine to create space for research

THE establishment of the South African Laboratory for Network Security Products & Services is set to drive the investigation into network security solutions focused on the SA requirements.



Dr. ...

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.

The aim was to create a think tank where different sectors of the industry can come together.



Dr. ...

The aim was to create a think tank where different sectors of the industry can come together.

BOOST FOR NETWORK SECURITY R&D IN SOUTH AFRICA

Academics and industry partner to launch virtual network security laboratory

Academics and industry partner to launch virtual network security laboratory.

The aim was to create a think tank where different sectors of the industry can come together.

How Research Mobility Impacts Careers in North/South Partnerships. The Swiss -- African example.

University of Basel
„Swiss -- African Joint Research Programme“
Kollegienhaus, Wednesday 28th November 2012

Andrew Hutchison
andrew.hutchison@t-systems.co.za
acmhutchison@gmail.com
+27 83 303 2387



To what extent my studies
abroad enabled me to change
the world around me, and what
recommendations I hold for the
young science generation

How was I able to transfer
back knowledge as a graduate
from a Swiss University to my
home country, and what
challenges did I encounter

How my research stay in
Switzerland influenced my
scientific career

Swiss South Africa Joint Research Programme SSAJRP

[About the Programme](#)

[Funding Instruments](#)

[Academia - Industry](#)

[Programme Activity](#)

[Swissnex](#)

[Joint Visiting Programmes](#)

[Joint Degrees](#)

[Joint Teaching Programmes](#)



SWISS SOUTH AFRICAN JOINT RESEARCH PROGRAMME (SSAJRP)

Welcome

The Swiss South Africa Joint Research Programme (SSAJRP) has been promoting scientific and technological cooperation between Switzerland and South Africa since 2008. The programme is one of several bilateral research cooperation programmes organised by the [State Secretariat for Education, Research and Innovation \(SERI\)](#)

SSAJRP fosters research partnerships between Swiss and South African scientists through *joint research projects*. It facilitates university *faculty and student exchanges* to promote knowledge transfer and innovation in both countries.

It also supports industry orientated projects with potential for innovation and generation of market-oriented outputs through a number of *Academia - Industry initiatives*.



About the Programme

Cooperation is based on mutual interest, scientific excellence and reciprocity (matching funds).

In South Africa, SSAJRP is governed by the Department of Science and Technology (DST) and coordinated by the Council of Scientific and Industrial Research (CSIR) [more...](#)

[Organisation, Background, Goals, Budget, Media](#)

01.05.2012 [News about SSAJRP from the SERI website >](#)

Funding Instruments

SSAJRP aims to strengthen existing research partnerships, aid the formation of new scientific networks and support knowledge transfer and innovation in Switzerland and South Africa. The programme's funding instruments have been implemented to support both established researchers and young early career scientists.

[Details >Funding Instruments](#)

[SNSF website >](#)

[Joint Research Projects, Faculty & Student Exchanges, Academia - Industry Initiatives, further funding programmes](#)

[Academia - Industry](#)

[Programme Activity](#)

Contacts

University of Basel
International Affairs

Dorina Kühner

+41 61 267 29 10
dorina.kuehner-at-unibas.ch

Science & Technology
Counsellor in Pretoria

Jacqueline Friedenthal

+27 12 452 0672

jacqueline.friedenthal-at-eda.admin.ch

State Secretariat for
Education, Research and
Innovation **SERI**
www.sbf.admin.ch

Other Programmes

Similar bilateral research cooperation programmes exist with:

[India](#)

[China](#)

[Russia](#)

Swiss South Africa Joint Research Programme SSAJRP

About the Programme

Funding Instruments

Academia - Industry

Programme Activity

Swissnex

Joint Visiting Programmes

Joint Degrees

Joint Teaching Programmes



SWISS SOUTH AFRICAN JOINT RESEARCH PROGRAMME (SSAJRP)

About the Programme

Cooperation is based on mutual interest, scientific excellence and reciprocity (matching funds).

In South Africa, SSAJRP is governed by the Department of Science and Technology (DST) and coordinated by the Council of Scientific and Industrial Research (CSIR).

On the Swiss side, SSAJRP is administrated by **SERI**. The University of Basel, as the Swiss Leading House for South Africa, and the Swiss Tropical and Public Health Institute, as the Associated Leading House, jointly assume coordination and management responsibilities.

In the 2013-2016 phase of the programme, SSAJRP will cover the following four priority research fields:

- Public Health & Biomedicine
- Bio- & Nanotechnologies
- Energy (emphasis on renewable energy sources, reliable energy supply and clean technology)
- Human & Social Sciences

Organisation

SSAJRP operates through a structure of standing committees, composed of representatives from government, universities and the private sector.

The **Swiss South African Joint Committee**, the supreme body and highest authority of SSAJRP, defines the strategic goals and orientation of SSAJRP. The committee is composed of an equal number of representatives of Switzerland and South Africa and chaired jointly by a representative



Background

The University of Basel has developed close ties with Southern Africa over several centuries. Since the founding of the **Basler Mission** (today mission21) in 1815, Basel has been building competence in research on South Africa. Vital for the establishment of scientific relations has been the **Swiss Tropical and Public Health Institute**, whose research on malaria prevention in Tanzania was awarded the Prince of Asturias Prize.

The reputed Basel University **Centre for**

Contacts

University of Basel
International Affairs
Dorina Kühner

+41 61 267 29 10
dorina.kuehner-at-unibas.ch

Science & Technology
Counsellor in Pretoria

Jacqueline Friedenthal

+27 12 452 0672

jacqueline.friedenthal-at-eda.admin.ch

State Secretariat for
Education, Research and
Innovation **SERI**
www.sbf.admin.ch

Other Programmes

Similar bilateral research cooperation programmes exist with:

[India](#)

[China](#)

[Russia](#)

Swiss South Africa Joint Research Programme SSAJRP

About the Programme

Funding Instruments

Joint Research Projects

Student & Faculty Exchanges

Academia - Industry Initiatives

Academia - Industry

Programme Activity

Swissnex

Joint Visiting Programmes

Joint Degrees

Joint Teaching Programmes



SWISS SOUTH AFRICAN JOINT RESEARCH PROGRAMME (SSAJRP)

Funding Instruments

SSAJRP aims to strengthen existing research partnerships, aid the formation of new scientific networks and support knowledge transfer and innovation in Switzerland and South Africa. The programme's funding instruments have been implemented to support both established researchers and young early career scientists.



Joint Research Projects

SSAJRP's four priority research fields for the 2013 - 2016 phase of the programme are:

- Public Health & Biomedicine
- Bio- & Nanotechnologies
- Energy (emphasis on renewable energy sources, reliable energy supply and clean technology)
- Human & Social Sciences

[Further details >](#)

[SSAJRP 2013-2016](#), [SSAJRP 2008-2011](#)

Faculty & Student Exchanges

SSAJRP supports young and established scientists through faculty & student exchanges. Faculty and student exchange grants promote knowledge transfer between Switzerland and South Africa by facilitating the establishment of cross-country cooperation partnerships and networks. In addition, the grants enhance the personal development and future career prospects of students and early-stage scientists.

[Details >](#)

Academia - Industry Initiatives

Initiatives in this *science-to-market* phase contribute to strengthening links and cooperation between academia and the biotechnology industries of South Africa and Switzerland.

[Further details >](#)

[Seed money call 2011](#)

Further Funding Programmes

COST - In July 2009 South Africa joined the COST network. COST (European Cooperation in Science and Technology) is one of the longest-running European instruments supporting cooperation among scientists and researchers across Europe and beyond. Networking activities between Europe and South Africa are financed through the recently signed reciprocal agreement. For detailed

Resources

KFPE's New Guide for Transboundary Research Partnerships

<http://www.kfpe.ch/11-Principles/>

[EURResearch](#) Swiss Guide to European research & innovation

Academia - Industry Initiatives

Initiatives in this *science-to-market* phase contribute to strengthening links and cooperation between academia and the biotechnology industries of South Africa and Switzerland.

[Further details >](#)

[Seed money call 2011](#)

Further Funding Programmes

COST - In July 2009 South Africa joined the COST network. COST (European Cooperation in Science and Technology) is one of the longest-running European instruments supporting cooperation among scientists and researchers across Europe and beyond. Networking activities between Europe and South Africa are financed through the recently signed reciprocal agreement. For detailed information please visit sbf.admin.ch or contact cost-at-sbf.admin.ch.

ESKAS - Up to 10 university scholarships are granted to postgraduate students under the [ESKAS programme](#).

SNSF - The Swiss National Science Foundation (SNSF) offers additional funding possibilities for researchers working in Switzerland such as [International Short Visits](#) and [International Exploratory Workshops](#).

GLOBAL SOUTH SCHOLAR-IN-RESIDENCE PROGRAMME - The Graduate Institute of International and Development Studies has created a [Global South Scholar-In-Residence Programme](#) specifically tailored to academics from universities of Africa, Asia and Latin America to permit them to further develop their teaching and research capacities.

[Swiss South Africa Joint Research Programme SSAJRP](#)[About the Programme](#)[Funding Instruments](#)[Joint Research Projects](#)[Student & Faculty Exchanges](#)[Academia - Industry Initiatives](#)[Academia - Industry](#)[Programme Activity](#)[Swissnex](#)[Joint Visiting Programmes](#)[Joint Degrees](#)[Joint Teaching Programmes](#)

SWISS SOUTH AFRICAN JOINT RESEARCH PROGRAMME (SSAJRP)

Academia - Industry Initiatives

Initiatives in this *science-to-market* phase contribute to strengthening links and cooperation between academia and the biotechnology industries of South Africa and Switzerland. Projects are submitted by researchers having an industry partner.



Seed Money Call 2011

To further foster industry-oriented projects, a seed money call was launched in March 2011 focusing on the ground-breaking disciplines Public Health and Biomedicine, as well as Bio- and Nanotechnologies. A total of CHF 600'000 was made available to support joint research projects between Switzerland and South Africa for 2011.

In response to the Seed Money Call for proposals, the University of Basel and NRF received 12 eligible joint research project proposals. The proposals were subsequently reviewed in both Switzerland and South Africa by international review panels and recommendations of the reviewers considered by the Leading Houses and the respective ministries (SER and DST).

Given the budget that was made available by both sides, 9 projects were selected for financial funding. The key consideration that resulted in the selection of these projects was scientific excellence. A second main consideration included the industry orientation of the projects and their potential for innovation and generation of market-oriented outputs. Also, already existing cooperation links with the industry partner were taken into consideration.

CHF600 000 in 2011
for 9 joint projects

Observations

- ◎ Strong leader / “champion” in Uni Basel
- ◎ Multi-disciplinary focus dilutes
- ◎ Modes of funding are typical (joint projects, exchange, student support, etc)
- ◎ Forums
- ◎ Lack of industry involvement (e.g. IBM ZRL, Google Zurich, Pharmaceutical companies etc)
- ◎ “Best kept secret”

BIC development of programme in South Africa

- ◎ BIC is advocating a more multi-lateral cooperation model ... needed especially for cyber security
- ◎ Has a slightly extended model of working groups, including one called an Extended Working Group (EWG) in country
- ◎ Recently launched an EWG in India (Mr. Abhishek Sharma of the BIC International Advisory Group (IAG) presenting India progress and launch ... aim to duplicate in South Africa and Brazil.
- ◎ Goal: to set up an EWG in South Africa in the next months.

Constituencies

◎ Industry

- International companies
 - R&D entities
- “Local” companies
 - Startups?
 - BEE

◎ Academic

- Universities
 - Funding: national, international, industry (local / international)

Cyber Security

- ◉ Develop expertise in South Africa
- ◉ Increase number of qualified graduates (especially post-graduate)
- ◉ Critical infrastructure requires special consideration and protection
- ◉ Sophistication (and globalisation) of attacks continues to grow at rapid pace
- ◉ Joint European / South African projects can improve situation at many levels

Thank you!