



IC1301 -WiPE

Wireless Power Transmission for Sustainable Electronics

Grant Holder Presentation



Pedro Miguel Cruz

Institute of Telecommunications – University of
Aveiro

Instituto de Telecomunicações (IT)

» Mission

To create and disseminate scientific knowledge and foster advanced training in the field of **telecommunications**



Instituto de Telecomunicações (IT)

» IT Sites

Aveiro | Coimbra | Lisboa



» Members

- ▶ Instituto Superior Técnico (IST)
- ▶ University of Aveiro (UA)
- ▶ Faculty of Sciences and Technology, University of Coimbra (UC)
- ▶ Portugal Telecom Inovação (PTIN)
- ▶ Nokia Siemens Networks (NSN)
- ▶ University of Beira Interior (UBI)
- ▶ University of O'Porto (UP)
- ▶ Instituto Superior de Ciências do Trabalho e da Empresa (ISCTE)

Private Association – Not for Profit – Public good – Associate Laboratory

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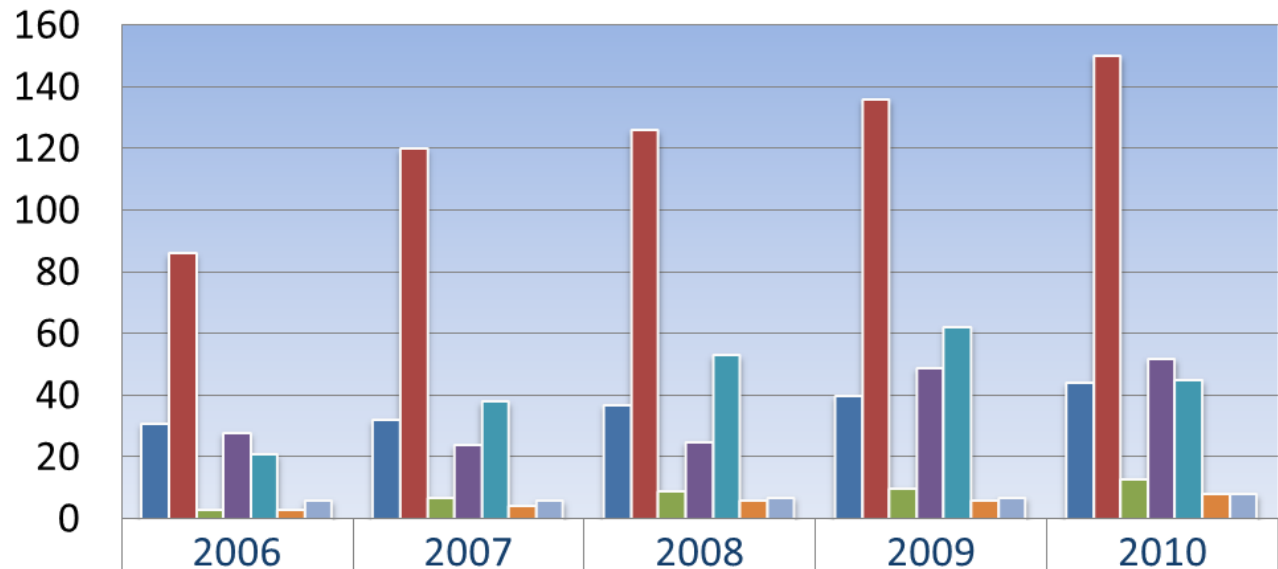
Internal Scientific Organization



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Personnel Resources

AVEIRO SITE

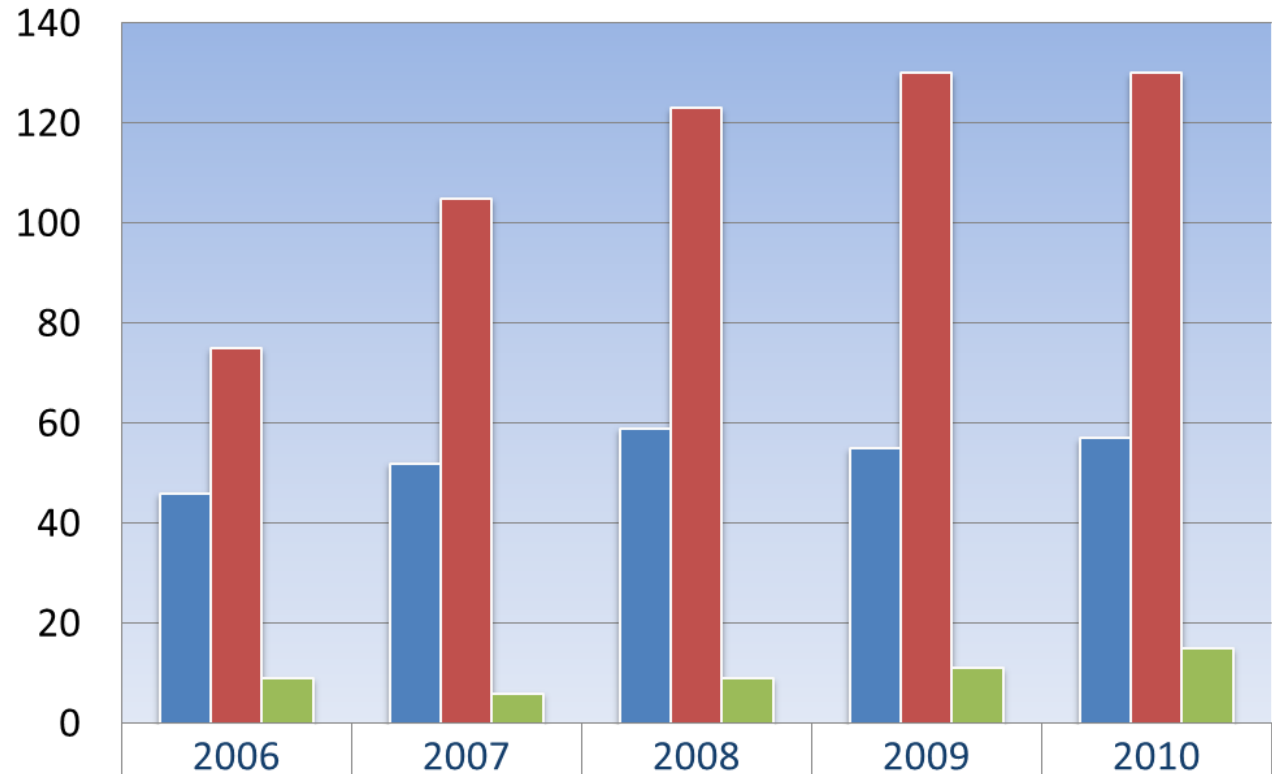


	2006	2007	2008	2009	2010
■ Professors	31	32	37	40	44
■ Researchers	86	120	126	136	150
■ Post Doc Students	3	7	9	10	13
■ PhD Students	28	24	25	49	52
■ Master Students	21	38	53	62	45
■ Research Technician	3	4	6	6	8
■ Administrative Staff	6	6	7	7	8

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Publications

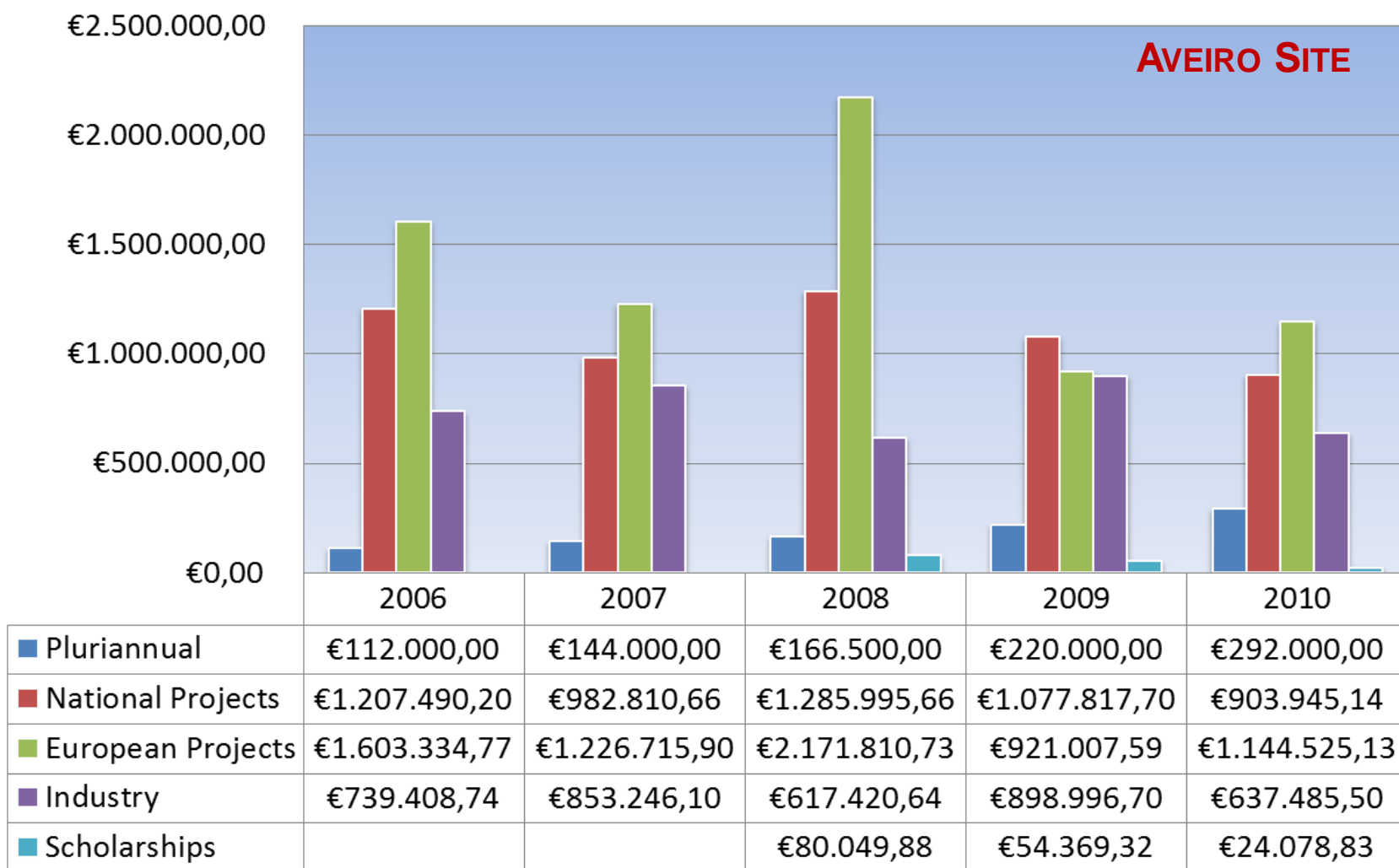
AVEIRO SITE



■ International journals/ Books/ Books chapters	46	52	59	55	57
■ Conferencies	75	105	123	130	130
■ Patents	9	6	9	11	15

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Funding (2006 – 2010)



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EU 7th FP - ICT “top-10”

Entities with more participation in projects	Entities of the higher budget projects
Alcatel-Lucent	Ericsson
Nokia-Siemens	Alcatel-Lucent
Ericsson	France Telecom
Telefonica	Commissariat à l’Energie Atomique (CEA)
Fraunhofer Institute	Nokia-Siemens
France Telecom	Fraunhofer Institute
Universitat Politecnica de Catalunya	Thales
Instituto de Telecomunicações	Telefonica
Commissariat à l’Energie Atomique (CEA)	Instituto de Telecomunicações
Groupe des Ecoles des Telecommunications (GET)	Motorola
Motorola	NEC
Interdisciplinair Instituut voor Breeband Technologie (IBBT)	Interdisciplinair Instituut voor Breeband Technologie (IBBT)





Institute of Telecommunications

Highlights



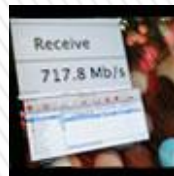
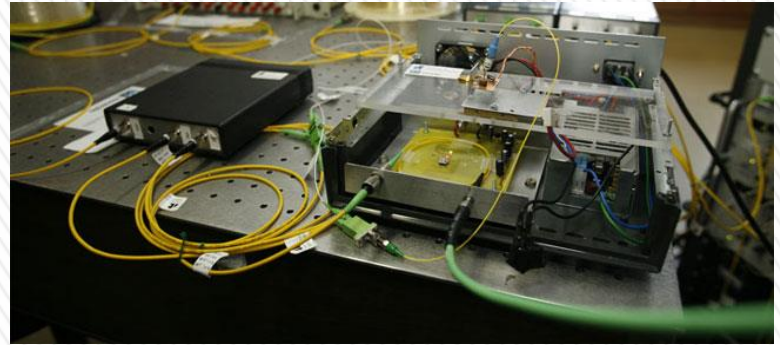
<http://www.ua.pt/it>



IT-Aveiro Highlights

» **10Gb/s WDM PON ONT:**
internet @ “light speed”

- > Prototype demonstration
- > Supported by Portugal Telecom



IT-Aveiro Highlights

- » **SKA – Square Kilometer Array:** the world's largest telescope
- > It is one of five major scientific projects of the century, with the participation of Portugal
- > It is a telescope that will spread a circle of 3000 km in diameter and will be ready in 2020



Agroparce Compromete-se Antena de Fase Controlada (Square Kilometer Array)

Um sistema de frequência (1 GHz), essencialmente a nível de distribuição de potência, número potencial de guias de onda, etc., e a capacidade de diagnóstico e otimização em tempo real, para as condições de operação.

Estas imagens de satélite de funcionamento do SKA e um radiotelescópio

Antena parabólica de 30 metros de diâmetro, com uma superfície refletora de 900 m², no centro, a sua forma em a parabolóide e o seu eixo principal em base O eixo de simetria em grande escala, com uma grande escala de metros. Ao longo do eixo de simetria, há uma grande variedade de estruturas, incluindo o sistema de suporte.

Antena Parabólica

Um sistema de frequência (1 GHz), essencialmente a nível de distribuição de potência, número potencial de guias de onda, etc., e a capacidade de diagnóstico e otimização em tempo real, para as condições de operação.

A África do Sul e Austrália são os dois países que se comprometem a instalar o radiotelescópio. A decisão política será tomada em 2012.

Antena Dispersa (Square Kilometer Array)

Um sistema de muito baixa frequência (100 MHz), essencialmente a nível de distribuição de potência, número potencial de guias de onda, etc., e a capacidade de diagnóstico e otimização em tempo real, para as condições de operação.

NUCLEO CENTRAL

SKA

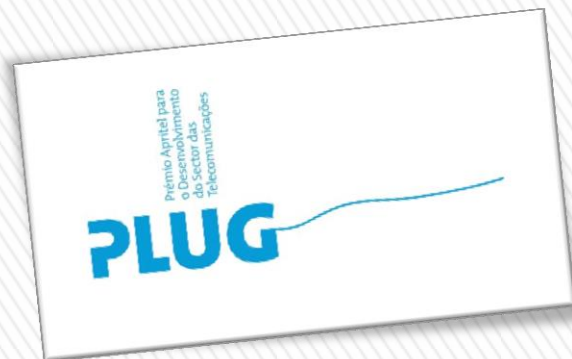
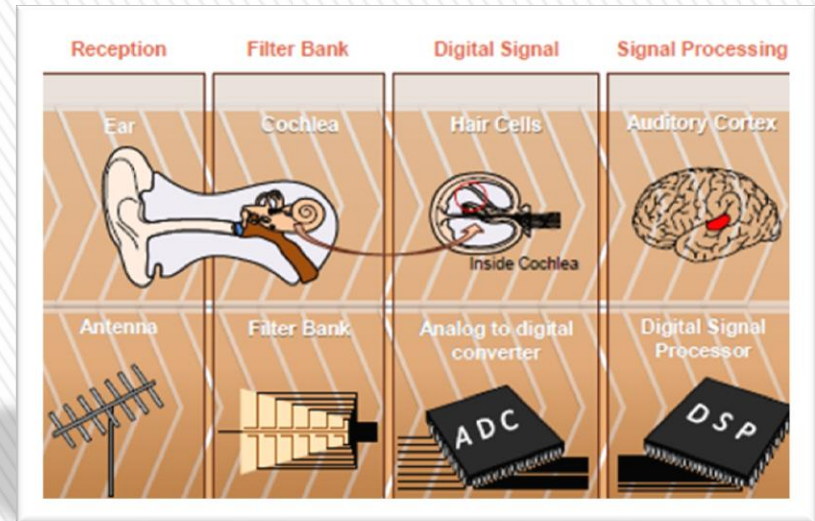
SQUARE KILOMETRE ARRAY

Map of Africa: Shows the locations of the SKA sites in South Africa, including Gansbaai, Meerburg, and Murchison.

Map of Australia: Shows the locations of the SKA sites in Australia, including Murchison, Boolbitjan, and New Kalbar.

IT-Aveiro Highlights

- » **Cochlear Radio:** an analog to digital converter system for SDR
- > This work was awarded the 1st 2010 Plug prize for developments in the telecommunications sector from APRITEL



IT-Aveiro Highlights

» Fraunhofer Portugal Challenge 2011 – Awarded Ideas

> PhD Category

- + 1st Place: *“Electronic Marketplace for Teleradiology Services”*, Daniel Polónia
- + 2nd Place: *“Visible Light Communication for Advanced Driver Assistance Systems”*, Navin Kumar

> MSc Category

- + 1st Place: *“Design of a Battery-free Wireless Sensor Node”*, Ricardo Fernandes



IT-Aveiro Highlights

- » **IEEE MTT-S International Microwave Symposium 2013: Student Awards**
 - > IEEE MTT-S Graduate Fellowship
 - + **Alírio Boaventura** (PhD Student)
 - > Student Competition: SDR and DSP Design - Undergraduate Competition
 - + **André Prata** (MSc Student)
 - > Student Competition: SDC-LSNA MTT-11 Measurement Competition
 - + **Diogo Ribeiro** (PhD Student)





Grant Holder Information

<http://www.ua.pt/it>



Grant Holder Information

» Before / during the meeting

- > Please answer as soon as possible in [e-cost platform](#), so that we can fund the maximum number of people
- > Please sign the attendance list everyday if not reimbursement cannot be processed
- > Preferably deliver the **original TRR form signed** (in blue) in person

» After the meeting

- > If not delivered at meeting, **TRR form should be mailed by post** until 30 days after the meeting to get the reimbursement
- > Send by email all the receipts of plane, transportation, taxi, car rental and maps, etc.
- > Reimbursements will be made only after the **TRR form is delivered**
- > IT will adhere to **ONLINE STRONG AUTHENTICATION TRR FORMS**



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Acknowledgment



Grateful for your Attention!

