

Bell Labs Ireland : Marie Curie European Industrial Doctorate Artisian Project

Oct 2012

Alan Leddy

..... Alcatel-Lucent 

About Bell Labs: Alcatel-Lucent's Research Organization

- 29,000 Active Patents Worldwide
- Active in over 100 Standards Bodies

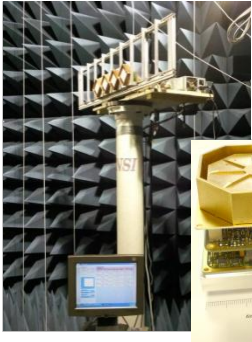
- 7 Nobel Prizes in Physics
- 9 U.S. Medals of Science
- 12 U.S. Medals of Technology
- 1 Japan Prize
- 2 Draper Prizes
- 3 John Tyndall Awards
- 1 GRAMMY® Award
- 6 Marconi Intern'l Fellowship Awards
- 7 C&C Prizes
- 28 IEEE Medal of Honor winners
- 1 Emmy Award
- 1 General Ferrié Award
- 1 Blondel Committee Medal

- Transistor
- Communications theory
- Cellular telephony
- Multiple Input/Multiple Output (MIMO)
- Dense Wave Division Multiplexing (DWDM)
- Data networking & DSL
- Communication satellites (Telstar) & Solar cells
- Laser and laser technologies
- UNIX® computer operating system & C
- The charged coupled device (CCD), 2009 Nobel Prize –
- lightRadio *

- Collaborating with > 200 universities world-wide
- Multiple Open Innovation Initiatives

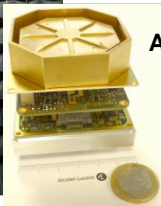
BELL LABS IRELAND

Research Lab



Wireless Access
(RF architectures, Wireless Sensor Networks)

A key contributor to lightRadio

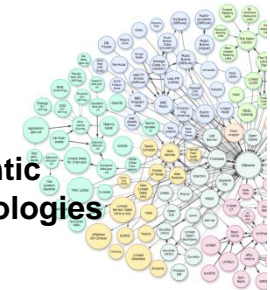


BLI Anechoic Chamber



BLI FemtoTestbed

Small Cell Autonomous Networking



Semantic Technologies

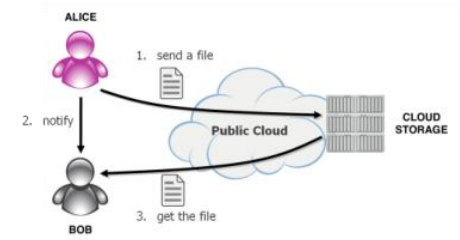


Operations Research & Data Analytics



3-Sided heat sink for lightRadio Cube

Thermal management & Eco-sustainability



Cloud Security

- ❑ Groundbreaking research in thermal management solutions, wireless, especially in small cells, antenna architecture and
- ❑ Innovation in Operations Research & Analytics
- ❑ 45 people, 11 nationalities, majority with PhDs

BELL LABS IRELAND Eco-System

Key industrial partner to government funded academia-industry research clusters;



Digital Enterprise
Research Institute



wireless sensor
systems



Federated, Autonomic Management of End-
to-end communication services

Many collaborations, Internships
and PhD programmes with
leading universities



UNIVERSITY OF LIMERICK
OILESCOIL LUIMNIGH



Limited pool of RF
electromagnetic expertise
locally

Artisian project history

- QUB & BLI identified complementary research agendas
- First defined the Statement of Work in 2011
- Drafted Project Proposal for Marie Curie European Industrial Doctorate
- IUA reviewed Draft
- IUA suggested some alterations, elaborations & clarifications
- Revised Project Proposal submitted to EU
- Result above threshold of 90%
- Consortium agreement including IP finalized in Oct
- First PhD due to start in early 2013



Artisian Key takeaways

- ✓ EID is very attractive scheme:
 - only 2 partners, exploit North-South boarder & 50% on site placements & free to industry
- ✓ Form real partnership with complementary skill sets and strategic research programmes
- ✓ Answer all questions
 - Training of researchers
 - Management of project
 - Technical & research agenda
- ✓ Hands on negotiations for Consortium & IP agreements early and fast
- ✓ Let IUA help in proposal preparations
 - THEY ARE THE EXPERTS !
- X Took <18 months from initial discussions to PhDs starting
 - Fast for EU, Slow for industry



AT
THE
SPEED
OF
IDEAS