

RAUL R. LEAL ASCENCIO

PROFESSIONAL FOCUS

Business Management One of the reasons why large complex projects may over-run, under-perform, be over budget or simply fail is the lack of a business culture and maturity that enables proper alignment and integration of resources (talent, training, information, technology, development processes, budget) together with other enterprise-wide processes (risk, quality, change, competitive intelligence, human motivation). I aim to promote and implement this holistic view.

Consultancy and Professional Development Managing complex technological projects is not easy but there are tools, methods and processes that can help achieve the best of probabilities of success. Systems Engineering (SE) is a discipline that helps achieve success by reducing risk and ensuring quality in the development of complex technological projects. SE achieves this by applying systems thinking in a consistent way throughout the development processes and by providing a series of best practices to every particular engineering task. SE provides structure (processes), common view (in breadth and depth), methods and tools as well as space for innovation, when applied properly.

I am interested in the proper application of systems thinking and the links to other management and business processes for success and sustainability.

FULL PROFESSIONAL EXPERIENCE

2008 – date University College London, UCL London, UK
Commercial Manager, Technology Management Group/Centre for Systems Engineering

Commercial Manager, Consultant, Researcher and Lecturer in all the areas of Technology Management.

- Negotiating, closing contracts, promotion, marketing. Writing bids and managing projects.
- Designing and delivering industrial training throughout UK and in USA, South America and India as well as consultancy in best practice for:
 - Selex Galileo (part of Finmeccanica)
 - Ultra Electronics
 - General Dynamics
 - EADS Astrium
 - Mott MacDonald
 - BAE Systems
- Lecturing at postgraduate level in UCL. Systems Thinking, Business Context, Systems Engineering, Project Management, Quality and related areas.
- Delivering consultancy in industrial training programmes and best practice in Systems Engineering and Project Management. Includes seminars, workshops and lead exercises dealing with senior engineers, directors and project managers.

2007 – 2008 Petra, Ltd. [*high-tech start-up*] Harwell, UK
System Design Authority

Senior systems design engineer for the development of a Positron Emission Tomography

Imaging Instrument for nuclear medicine. The instrument design is based on a multiple wire proportional counter incorporating a high speed, high density electronics interface. Work involved design authority over complete system requirements specification, high level design of the electronics interface, software requirements, mechanical requirements, electronics architecture design, dealing with suppliers and having full control over the technical aspects of the design. I interfaced with medical stakeholders for requirements elicitation.

2006 - 2007 King's College London London, UK
Visiting Lecturer

Visiting lecturer leading and managing a research project for the detection of driving patterns through an electronic device. Hardware and software design including pattern recognition algorithms. The work was done with a group of researchers and engineers in Mexico and UK.

2005 - 2006 ITESO Jalisco, Mexico
Editorial board of MAGIS, University Magazine (part-time)

Member of the editorial board and science and technology writer for the university professional magazine, MAGIS (magis.iteso.mx)

2005 - 2006 WISE Jalisco, Mexico
Created own consulting and training company (part-time)

Provided training and consultancy for

- Siemens Manufacturing, Guadalajara
- SiemensVDO Research and Development, Guadalajara

in the areas of:

- Basic Electronics
- Sensor and Instrumentation Technology
- Research and Innovation Management
- Machine Intelligence

2000 - 2006 Electronics Industry Jalisco, Mexico
Consultant (part-time)

Consultant in industry in the areas of sensors, applications of artificial neural networks for fault detection, inferential estimation algorithms, biotechnology processes, control systems, image processing, automotive electronics and competitive intelligence (technical diagnosis, business processes & research). Work has been carried out for:

- Jabil Circuit (Electronics manufacturing, Testing)
- Siemens VDO (Automotive electronics, Pattern Recognition and Competitive Intelligence)
- CIATEJ (Bioprocess control and instrumentation, image processing, inferential estimation)
- Hydra Technologies (Avionics)
- Soluciones Tecnológicas (Automotive Electronics and Pattern Recognition)
- Synapsis (Medical Electronics)

1996 - 2006 ITESO Guadalajara, Mexico
Lecturer/Researcher

Lecturer-Researcher for ITESO. Lecturing in the Bachelor and Master degree in Electronics on Neural Networks, Sensors, Instrumentation, Control Engineering, Project Management, Competitive Intelligence and other subjects. From April 1996.

Head of the Master degree in Industrial Electronics in the Department of Electronics, Systems and Informatics at ITESO, from August 1998-2000 and 2004-2006.

Head of the research programme of Applications of Artificial Neural Networks in Bioprocesses, 1996-2004. Work carried out with CIATEJ on their fermentation processes in the production of the pigment Astaxanthin. We produced instrumentation hardware and software and algorithms for the estimation of variables and control of the process.

Head of the research programme in the Department of Electronics, Systems and Informatics at ITESO, from June 2000-2006.

Commissioned to head the design, writing of bid and procurement of funds for a new postgraduate degree programme together with industry and government, April 2005- June 2006. The project successfully started in 2006 and continues to date.

1993-1996 Manchester Biotechnology Centre Manchester, UK

Worked with the Manchester Biotechnology Centre for my PhD thesis in the estimation of biomass in the production of the antibiotic chloramphenicol. Estimation achieved through the application of principal component analysis and artificial neural networks and used for the control of a batch fermentation process.

1995 UMIST Manchester, UK

Computer Systems Assistant (part-time)

Assistant in the administration of the computing systems (software and hardware) from May to September 1995

1994-1995 University of Salford Manchester, UK

Editor and contributor for Grassroots (part-time)

Main editor and contributor to Grassroots, a bulletin for the University of Salford.

1991 - 1992 GRAD, Ltd. Chelford, Cheshire, UK

Master Degree Industrial Project

Industrial Project "Characterisation and Simulation of a Remotely Operated Vehicle". Complete instrumentation from sensor and instrumentation building to presentation software of a test structure to measure the forces exerted by an underwater vehicle. Completed a simple simulation software programme for the vehicle. Modelling done in proprietary software (Salford University) using multiple differential equations.

1989 - 1991 Instituto Nacional de Astrofísica, Óptica y Electrónica, Tonantzintla, Puebla, Mexico

Junior Researcher

Assigned to the project "Automatic Weighing and Bagging Systems". Design and Implementation of an electronic control for a prototype of an electromechanical scale of industrial use.

EDUCATION

1993 - 1996 UMIST Manchester, UK

PhD

PhD obtained doing an applied research project in the Department of Instrumentation and Analytical Science with the Manchester Biotechnology Centre "Data Fusion and Artificial Neural Networks for Optimisation of a Fermentation Process".

1991 - 1993 Salford University Salford, UK

MSc.

Master degree in Industrial Control Systems obtained doing an applied industrial project in the industry itself, "Characterisation and Simulation of an ROV" in GRAD Limited, Chelford Cheshire UK (Dec '91- Nov. '92).

1984 - 1989 Universidad de las Américas Cholula, Puebla, Mexico

BEng

Four-year degree on electronics and telecommunications in a private university in Mexico.

SUMMARY OF TECHNICAL SKILLS AND TOOLS

Office computing: All office productivity tools including project management. Intermediate skill with editing, design and publishing packages.

Many system-level modelling and simulation CAD packages, techniques and methodologies.

Proficient in Project Management standards (PMI, APM), Systems Engineering standards (member of INCOSE). APMP.

Familiarity with Quality Management Systems, Lean, Six Sigma, CMMI.

AWARDS AND DISTINCTIONS RECEIVED

Certified APMP. Member of INCOSE and over 10 years membership of IEEE. Approximately 15 different awards and distinctions available upon request

PUBLICATIONS

Over 65 publications in total.

International Journals

5 publications available upon request

International Congresses

Approximately 20 publications, available upon request

National Simposia

Approximately 15 publications, available upon request

Technical Reports

Approximately 15 technical reports

Articles on Science and Technology for the wider public

Approximately 10 publications, available upon request

ADDITIONAL PROFESSIONAL ACTIVITIES

Fortnightly participation with a commentary on technology issues for an AM/FM radio program from January 2005 to August 2006.

12 Public lectures from 1996-2006.

LANGUAGES

Spanish: Native language.

English: Fully proficient.

INTERESTS AND ACTIVITIES

Sports, reading and music.