

Rodolfo PEÑA

Industrial Engineer

M.Eng. of Complex Systems

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Sex Male | Date of birth 21/10/1985 | Nationality Chilean

Objective My principal work interests are in the field of Systems Engineering **SE** for the design of Complex Management Control Systems **MCS**. Currently I'm controlling the most important telecommunications project in Latin-American called EPCM Services – Engineering, Procurement, Construction and Management – for Entel, work based on different control techniques such as Enterprise Risk Management **ERM**, Balanced Scorecard **BSC**, and Value Added Method **VAM** among others. At this first stage, my work like **Chief of Management Control** consists in to create valuable information for board directors, but secondly like **Project Leader**, is my work to centralize the information of all projects **DRS Engineering** creating a MCS for the entire organization.

RESEARCH INTERESTS

Systems Engineering (for the design, development and integration of Complex Control Systems)
Risk Management
Balanced Scorecard
Value Added Method
Requirements Management

EDUCATION

2011 – 2012 **M.Eng of Complex Systems**

University University of Lorraine – France

Thesis **A New Strategy for Dimensional Metrology using Smart Dust Networks**

This work introduces a new strategy called SMS – Self-Measurement Systems – for dimensional measurement using the smart dust network concept. With this concept, we can imagine that the products will have in the future self-measurement capabilities based on the localization of the smart particles (smart dust networks).

Notes 11.585/20

2004 – 2010 **Industrial Engineer**

University University of Santiago – Chile

Thesis **A New Strategy for the Design of a Transportation Fleet**

In this work, a new strategy and algorithm for dimensioning transportation fleets for the delivery of consumer products from a distribution centre (DC) to retailers is presented. The algorithm named CK, works on a horizon in which a delivery forecast is deployed, and simulates the behaviour of costs for a finite number of test fleets and chooses the most efficient.

Notes 6.1/7.0

WORK EXPERIENCE

Oct'12 – Present **Chief of Management Control**

Enterprise DRS Engineering - www.drs.cl /Chile

Activities **Project Leader**

Project leader of design, development, and implementation of the management control system for the entire organization. Number of dependents: 6.

Control Analyst

Data analysis to generate information for board directors. Design of key performance indicators to control each project based on different control techniques: BSC, VAM, etc.

Sector Construction

- Jun'12 – Sep'12
Enterprise
Activities
- Management Engineer**
E-Mining Technology - www.emt.cl /Chile
Process Control
Modeling of the transport process in the project of development and fortification for underground tunnels at Minera Florida of Yamana Gold (www.yamana.com).
Algorithm design
Development of a transportation algorithm in order to ensure the best selection process for the mining equipment.
- Sector
Mining
- Feb'11 – Feb'12
Enterprise
Activities
- Researcher**
Research Centre for Automatic Control - www.cran.uhp-nancy.fr / France
Research Topic
The research topic is about wireless sensor networks WSN with contributions for dimensional metrology applications. A new strategy called Self-Measurement System was proposed.
Simulation Tools
All results were simulated in different programming languages depending on the desired results: NetLogo (agent-based) and Python (general-purpose).
- Sector
Research
- Jan'09 – Dec'10
Enterprise
Courses
- Teaching Assistant**
University of Santiago - www.usach.cl /Chile
Multi-agent Systems Laboratory
Laboratory developed with several applications based on NetLogo ccl.northwestern.edu/netlogo/.
Supply Chain Management
Advanced course for industrial engineering students with exercises and case studies.
Macroeconomics
Advanced macroeconomics course for industrial engineering students.
- Sector
Education

LIST OF PUBLICATIONS

- 2013 **IFAC Workshop on Intelligent Manufacturing Systems IMS
Towards Product Monitoring throughout its Life-Cycle**
N. Krommenacker, P. Charpentier, R. Peña
22 – 24 may 2013, Sao Paulo, Brazil
- 2011 **International Conference on Indoor Positioning and Indoor Navigation IPIN
A New Strategy for Dimensional Metrology using Smart Dust Networks**
R. Peña, P. Charpentier, N. Krommenacker
21-23 September 2011, in Guimarães, Portugal
- 2011 **International Conference Integrated Design and Production CPI
Wireless Sensor Networks in Dimensional Metrology**
R. Peña, A. Alarcon, P. Charpentier, N. Krommenacker, Jean Yves Bron
7th , 19 – 21 October, Oujda, Morocco
- 2011 **International Conference on Production Research ICPR
A New Strategy for the Design of Transportation Fleet**
R. Peña, A. Moran, J. Sepulveda
July 31 - August 4, 2011 in Stuttgart, Germany

PERSONAL SKILLS

Mother tongue: **Spanish**
Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
French	C1	C1	C1	C1	B2
English	B1	B2	B1	B1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

COMPUTER SKILLS

Modeling Languages	SysML – System Modeling Language – for Systems Engineering: <i>basic user</i> UML – Unified Modeling Language – for Software Engineering: <i>independent user</i> BPMN – Business Process Modeling Notation – for Process Modeling: <i>advanced user</i>
Software Modeling	Netlogo for Multi-agent Systems: <i>advanced user</i> Rhapsody for Systems Engineering: <i>basic user</i> Arena for Stochastic Systems: <i>independent user</i> Lingo for Linear and Non-Linear Systems: <i>advanced user</i>
Programming Languages	Netlogo Agent-Based: <i>advanced user</i> Python General-Purpose: <i>independent user</i> Java General-Purpose, Concurrent, Class-Based, and Object-Oriented: <i>independent user</i>
Computer Tools	Microsoft Office an office suite of desktop applications: <i>advanced user</i> LaTeX a document mark-up language and document preparation system: <i>independent user</i>

PERSONAL PROJECTS

The Bridge www.sciences-arts.com	I'm actually working on my theory about sciences and arts called the bridge , in response to the question: how to pass freely between sciences and arts? I'm working on a new "language" to resolve complex problems based on simple solutions. I'm currently showing my advances in arts as juggler, painter, magician, pianist, writer, tango dancer, etc. and my work in sciences as engineer and researcher; in order to develop all kinds of personal, social, and organizational techniques.
Research	I'm working on an article called " A New Management Control Framework for Service Companies " based on my experience as project leader for the design, development and integration of the management control system to DRS Engineering. This work presents a new methodology that integrates BSC (Balanced Scorecard) and SE (Systems Engineering).

SCHOLARSHIPS

2011	Bourse du Gouvernement Française (France) . Has a monthly maintenance awarded by ministry of foreign affairs from January 2011 to 31 December 2011 (1 year).
2004	President of the Republic Scholarship (Chile) . Has a monthly maintenance awarded by ministry of education from March 2004 to 31 December 2007 (3 years).

REFERENCES

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