



www.cedefop.eu.int/transparency/
europa.eu.int/comm/education/index_en.html
eurescv-search.com/



EDUCATION AND TRAINING

- Dates (from – to)
- Name and type of organization providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded

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2005 -2007

ABB-DESTO, Heidelberg, Germany

Low voltage and automation design

European certified

1999-2001

ABB-DESTO, Heidelberg, Germany

Programmable automates and programming

European certified

1995-1998

Institute of Solid Mechanics of Romanian Academy

Ph.D. thesis: “Contributions in experimental physical data numerical acquisition through multimicroprocessor systems” / “Contributii in achizitia numerica a datelor fizice experimentale cu sisteme multimicroprocesor”

Dr. Ing.

1994-1996

CAPTELS PESAGE – Montpellier – France

Dosing and weighing automate installations

European certified

1987

Computers and Information Institute (ICI)

Programming in assembler language

Programming certified

1982

Politechnica University of Bucharest

Numerical control of industrial processes

Process control diploma

1974-1975

Faculty of Electronics and Telecommunications

Politechnic University of Bucharest

Pedagogy course

Professor certified

1972-1977

Faculty of Electronics and Telecommunications

Politechnica University of Bucharest

Student

Dipl. Ing., Engineer

PERSONAL SKILLS AND COMPETENCES

*Acquired in the course of life and career
but not necessarily covered by formal
certificates and diplomas.*

MOTHER TONGUE

OTHER LANGUAGES

- Reading skills
- Writing skills
- Verbal skills

SOCIAL SKILLS AND COMPETENCES

*Living and working with other people, in
multicultural environments, in positions
where communication is important and
situations where teamwork is essential
(for example culture and sports), etc.*

ROMANIAN

[Specify language]

ENGLISH - good

ENGLISH - good

ENGLISH- good

- Participated in over 50 international conferences/congresses: IcaMechs Tokyo, Beijing, Melbourne 2015-2016, ICCMIT Madrid, Praga, Vienna, 2015-2019, OPTIROB Bucharest 2012-2017, IFAC Berlin 2019, 20Ro ESPOCO'2005, Rio de Janeiro, Brasil; ICSV12, Lisbon, Portugal, 2005; ICMEN'2005, Chalkidiki, Greece; TMCR'2005, Kishinev, Moldova; 5th ECPA'2005, Uppsala; ICSV11, Sant Petersburg, 2004; AMSE, ICMS'2004, Valladolid, Spain; AMSE, MT'2004, Lyon, France; AMSE, MT'2003, Habana, Cuba; ECPA, AgEG'2002, Budapest; AMSE, CSS'01, Rabat, Marocco; AMSE, MSNN'2000, Medida, Venezuela; AMSE, MS'2000, Las Pamas, Spain; AMSE, SYS'98, Lyon, France, AMSE, I.T.H.U.R.S'96, Leon, Spain; SYS'94, Lyon, France
- Prize Traian Vuia - Romanian Academy (2006).
- Certificate of Excellence in Research 2000, SIR 2000 , Government of Romania, National Agency for Science, Technology and Innovation
- Medal of Excellence – 4-10 dec. 2000, SIR 2000 , Government of Romania, National Agency for Science, Technology and Innovation
- 9 International Invention and Innovation Competition Awards and Gold of World's Exhibition of Inventions, Geneva 2007 – 20011, and other 9 International Invention Awards and Gold of the Brussels, Zagreb, Bucharest International Exhibition.
- Member on the Committee of Engineering Sciences of the National Council for Scientific Research in Superior Education (CNCSIS)
- Member of the International Institute of Acoustics and Vibration (IIAV), Auburn University, USA;
- Member of the World Scientific and Engineering Academy Society (WSEAS);
- Member of the International Association for Modelling and Simulation Techniques in Enterprises-AMSE, France;
- Consulting Member of UEFISCUS
- Member of the Group of Consulting Experts PNCDI 2007-2013
- Member of the Romanian Robotics Association – ARR (din 1991);
- Member of the Romanian Tribology Association – ART (din 1990)
- Member of the international association DIGITAL (din 1995)
- Diamond Club Member
- President of the Committee of Evaluation of the Technical Informatics and Automations of the Technical University "Gh. Asachi" (April 2005).
- Evaluator Expert of the National Council for Scientific Research in Superior Education (CNCSIS); Evaluation of over 70 projects of the national program CNCSIS 2003-2005 and the excellence program 2005
- Member on the evaluation committees of over 20 grants/projects of national research – development programs or Romanian Academy programs, two of which European programs
- Team leader of over 50 projects finalized with industrial applications

ORGANIZATIONAL SKILLS

AND COMPETENCES

Coordination and administration of people, projects and budgets; at work, in voluntary work (for example culture and sports) and at home, etc.

Director and coordinator of 8 grants of national research – development national programs and participant in another 24 international and national grants. Project director and team leader in over 20 complex automations in various fields of economy. Manager of over 50 industrial applications involving programmable automates in distributed and decentralized structure. Coordinator for an international dealership contract with low voltage ABB equipment and engineering for automation projects with PLC ABB programmable automates concluded with ABB SST Heidelberg, Germany, 1996 – 2003.

Partner in two projects of the Leonardo da Vinci program.

Tourist guide for trips in the Bucegi Mountains (1975 – 1977)

TECHNICAL SKILLS

AND COMPETENCES

With computers, specific kinds of equipment, machinery, etc.

14 invention patents, over 20 scientific monographies and books published, over 100 technical articles published at international congresses/conferences, of which 47 in published in ISI/BDI research journals. Design, execution and activation of over 50 industrial technical applications, developing 17 advanced work methods resulting from applicative research activities.

Interests: robot control; intelligent control; artificial intelligence; intelligent agents; intelligent sensors systems; advanced intelligent control methods and techniques, intelligent decision support systems; versatile intelligent portable platforms, human-robot (H2R) interaction systems, machine-to-machine (M2M) interfaces, prediction; machine learning; IoT technologies; cyber-physical systems; IT Industry 4.0 concept, industrial systems in the digital age, intelligent sensors applied to rescue robots, firefighting robots, rehabilitation robots, robot-assisted surgery, domestic robots.

Contributions to the following fields of interest: real time control in solid mechanics; robot intelligent interfaces control, machine learning, deep learning, adaptive neural networks, control of industrial robots; dynamic systems' control; semi-active control of mechanical systems' vibrations; semi-active control of systems with magneto-rheological dissipaters; multi-microprocessor systems for real time command and control of industrial robots; numerical control command of mechanical processing centers; position control of robots; hybrid position – force control for industrial robots; numerical acquisition of experimental physical data; dispatching and monitoring through remote transmission of distribution systems; complex industrial automations with programmable automates in distributed and decentralized structure; open systems for numerical command (OPEN – CNC) of mechanical processing centers; data acquisition systems for monitoring of tools through vibrations; establishing the wear state of machine organs based on vibration diagnostics; dynamic problems in solid mechanics; intelligent control of building heating; real time control of the turation of high power electrical generators.

OTHER SKILLS

AND COMPETENCES

Competences not mentioned above.

DRIVING LICENCE(S)

Category B from 1985

ADDITIONAL INFORMATION

Full list of scientific publications enclosed

ANNEXES

[List any attached annexes.]



Professor Luige Vladareanu, Ph. D. Eng.
Director of Robotics and Mechatronics Department
Romanian Academy, Institute of Solid Mechanics, Bucharest
Romania

E-mail: luigiv@arexim.ro; luigiv@imsar.bu.edu.ro, www.vipro.edu.ro

Brief Profile

Luige Vladareanu received Ph.D. degree in electronics field from the Institute of Solid Mechanics of Romanian Academy, in 1998. From 2003, Ministry of Education and Research, executive Department for Financing Superior Education and of Scientific University Research - High Level Expert Consulting for MEC/CNCSIS project, from 2003-2005, member of Engineering Science Committee of Romanian National Research Council, from 2005, Scientific Researcher Gr.I (Professor) of Romanian Academy, from 2009 Head of Robotics and Mechatronics Department of Institute of Solid Mechanics, Romanian Academy. His scientific work is focused on real time control in solid mechanics applied in robot trajectory control, hybrid position – force control, multi-microprocessor systems for robot control, acquisition and processing of experimental physical data, experimental methods and signal processing, nano-micro manipulators, semi-active control of mechanical system vibrations, semi-active control of magnetorheological dissipaters systems, complex industrial automations with programmable logical controllers in distributed and decentralized structure. He has published over 35 books and book chapters, 11 edited books, over 200 papers in journals, proceedings and conferences in the areas. Director and coordinator of over 15 grants of international and national research – development programs in the last 5 years, 15 invention patents, developing 17 advanced work methods resulting from applicative research activities and more than 60 research projects. He is the author of the *virtual projection method* known as Vladareanu-Munteanu method, of the *Robot Neutrosophic Control RNC method* known as Vladareanu-Smarandache method, and the method of the *Extended (Extenics) Hybrid Force-Position Control eHFPC* of robots applied as Vladareanu-Smarandache-Sandru method. He is the winner of the two Prize and Gold of Excellence in Research 2000, SIR 2000, of the Romanian Government and the Agency for Science, Technology and Innovation. 9 International Invention and Innovation Competition Awards and Gold of World's Exhibition of Inventions, Geneva 2007 - 2016, and other 9 International Invention Awards and Gold of the Brussels, Zagreb, Bucharest International Exhibition. He received "Traian Vuia" (2006) *award of the Romanian Academy*, Romania's highest scientific research forum, for a group of scientific papers published in the real time control in the solid mechanics. He is a Corresponding Member of the American Romanian Academy and he is a member of the International Institute of Acoustics and Vibration (IIAV), Auburn University, USA (2006), ABI's Research Board of Advisors, American Biographical Institute (2006), World Scientific and Engineering Academy Society, WSEAS (2005), International Association for Modelling and Simulation Techniques in Enterprises - AMSE, France (2004), National Research Council from Romania (2003-2005), etc. He is a PhD advisor in the field of mechanical engineering at the Romanian Academy. He was an organizer of several international conferences such as the General Chair of four WSEAS International Conferences (<http://www.wseas.org/conferences/2008/romania/amta/index.html>), chaired Plenary Lectures to Houston 2009, Harvard, Boston 2010 and Penang, Malaysia 2010, Paris 2011, Florence 2014, Tenerife 2015 to the WSEAS International Conferences, is team leader of WSEAS scientific research project: Mechanics & Robotics Systems and is serving on various other conferences and academic societies.

Prof. Luige Vladareanu, Ph.D. Eng.
Director of Robotics and Mechatronics Department,
Romanian Academy, Institute of Solid Mechanics,
Corresponding Member of the American-Romanian Academy,
Member of the International Institute of Acoustics and Vibration, Auburn University, USA

Guest Editor, Advanced Intelligent Control through Versatile Intelligent Portable Platforms, Sensors journal, ISSN 1424-8220, IF 3,031, Print Special Issue Flyer, 2019, website:
[https://www.mdpi.com/journal/sensors/special issues/advanced intelligent control](https://www.mdpi.com/journal/sensors/special%20issues/advanced%20intelligent%20control)

Vice-President, Speaker and Special Session Chair of ICCMIT 2019, Vienna, Austria, website:
<https://www.iccmconference.net/>, <https://www.iccmconference.net/specialsessions>

Coordinator Director of PN-II-PT-PCCA-2013-4-2009, no.9/2014, 2014-2017 (<http://vipro.edu.ro>)

Coordinator Director of „Joint Laboratory of Intelligent Rehabilitation Robot” collaborative research project between Romanian Academy by IMSAR and Yanshan University, China and Ministry of Science and Technology of the People's Republic of China, MOST of PRC, STAP-DC project No. KY201501009

Romanian Partner Director of FP7 EU RABOT (<http://rabot.fusion-edu.eu><<http://rabot.fusion-edu.eu/>>) project

Romanian Partner Director of H2020 RISE, SMOOTH project (negotiation phase)

Coordinator Director of TOP MetEco AMBIENT project (<http://www.fonduri-ue.ro>), POC-A.1-A.1.2.1- D- 2015, ID P_39_383/2016-2018, Project co-financed by the European Regional Development Fund through Competitiveness Operational Programme 2014-2020

Chair of SISOM 2016 (http://www.imsar.ro/Call_for_papers_SISOM_2016.pdf)

Special Session Chair of ICAMECHS 2016, Melbourne, Australia,
(<http://web.tuat.ac.jp/~deng/icamechs2016/icamechs2016.html>)

Special Session Chair of SKIMA 2016, Chengdu (<http://fusion-edu.eu/SKIMA2016/organisation-committee/>)

Vice-President, Speaker and Special Session Chair of ICCMIT 2017
(<http://www.iccmitt.net/index17.html> and <http://www.iccmitt.net/special-session17.html>)

Email: luigiv2007@yahoo.com.sg , luige.vladareanu@vipro.edu.ro , www.vipro.edu.ro

LIST OF SIX MAIN SCIENTIFIC PUBLICATIONS:

1. Luige Vladareanu, Alexandru Gal, Hongnian Yu, Mingcong Deng, „**Robot control intelligent interfaces using the DSMT and the neutrosophic logic**” International Journal of Advanced Mechatronic Systems, Volume 6, Issue 2-3, ISSN: 1756-8420, pg. 128-135, Publisher Inderscience Publishers (IEL), 2015, <https://www.inderscienceonline.com/author/Vladareanu%2C+Luige> ;
2. Yongfei Feng, Hongbo Wang, Luige Vladareanu, Zheming Chen, Di Jin, Sensors 2019, 19(15), 3439; Special Issue [Advanced Intelligent Control through Versatile Intelligent Portable Platforms](#) , <https://doi.org/10.3390/s19153439>;
3. Vladareanu, V., Capitanu, L. and Luige Vladareanu*, “**Neuro-Fuzzy Modelling of the Metallic Surface Characterization on Linear Dry Contact between Plastic Material Reinforced with SGF and Alloyed Steel**”, Materials 2018, 11(7), 1181-1202, ISSN: 1996-1944, WOS:000442117300132, Q1&Q2;
4. Vlădăreanu, L., Smarandache, F., Ali, M., Vlădăreanu, V. and Deng, M., “**Robot system identification using 3D simulation component applied on VIPRO platform**”, International Conference on Advanced Mechatronic Systems (ICAMechS), 2016, Melbourne, VIC, Australia, 30 Nov.-3 Dec. 2016 , DOI: 10.1109/ICAMechS.2016.7813482, ISSN: 2325-0690, pg: 406-411, IEEE Xplore, Web of Science;
5. Ionel-Alexandru Gal, Danut Bucur and Luige Vlădăreanu * (corresponding author), “**DSMT Decision-Making Algorithms for Finding Grasping Configurations of Robot Dexterous Hands**”, Symmetry 2018, 10 (6), 198-214; pp.25, Published: 1 June 2018, ISSN: 1729-8814, WOS:000436283000018, <https://doi.org/10.3390/sym10060198> , IF 1.256, Q1&Q2;
6. Patent EPO-09464001.8, OSIM Brevet123527 / 30.04.2014, Luige Vladareanu, Lucian M. Velea, Radu I. Munteanu, Adrian Curaj, Sergiu Cononovici, Tudor Sireteanu, Lucian Capitanu, Mihai S. Munteanu, “**Real time control method and device for robot in virtual projection / Metoda și dispozitiv de control în timp real al roboților prin proiecție virtuală**”.

Publications (the partial list)

Luige Vladareanu,

Books

1. **Luige Vladareanu** – “Contributions in experimental physical data numerical acquisition through multimicroprocessor systems” / “Contributii in achizitia numerica a datelor fizice experimentale cu sisteme multimicroprocesor”, Ph.D. thesis, 1998.
2. **Luige Vladareanu** – “Real Time control with PLCs in solid mechanics. Applicative studies and research.”, Ed. BREN, ISBN 973-648-432-7, pp.207, 2005
3. **Luige Vladareanu** – “Real Time control with PLCs in solid mechanics. Applications.”, Ed. BREN, ISBN 973-648-433-5, pp.127, 2005
4. **Luige Vladareanu** - “Numeric acquisition of experimental physical data in multiprocessor systems” – Ed. Tehnica, Colectia “Universitaria”, ISBN 973-31-2144-4, pp.232, 2002.
5. **Luige Vladareanu, L.M. Velea** – “Basis of complex automation with PLCs programmable automation” Editura MEDIAMIRA , Cluj Napoca, ISBN973-9357-07-5, pp. 250, 2002
6. **Vlădăreanu L.**, Migdalovici M., Honorary Editors: Munteanu R., Sireteanu T., Capitanu L., Magheti I., *Proceedings of the XXIVth Annual Symposium of the Institute of Solid Mechanics and Session of the Commission of Acoustics SISOM&ACOUSTICS 2014*, Editors-in-Chief Luige Vladareanu, ISSN 1843-5459, pp. 329, Published by MEDIAMIRA, 2015
7. Iulian Tabara, **Luige Vladareanu**, Cristian Doicin, Nicolae Ionescu, Tom Savu, Adrian Bruja, Constantin Ocnărescu and Constantin Opran, “*Mechatronics and Robotics*”, ISBN-13: 978-3-03835-444-4, Applied Mechanics and Materials Vol. 762, pp. 323, Trans Tech Publications, May 2015
8. Lucian Capitanu, Virgil Florescu, Liliana-Laura Badita, **Luige Vladareanu**, Constantin Tiganesteanu, “*Complex Procedure for Evaluating and Predicting the Wear of a Total Knee Prosthesis Tibial Tray*”, NOVA Book, **Editors:** Janice Stewart, Series: Medical Procedures, Testing and Technology, pg. , ISBN: 978-1-63482-753-9, 2015, USA
9. Marina Shitikova, **Luige Vladareanu**, Claudio Guarnaccia, „Recent advances in mechanical engineering”, WSEAS Press, 2014
10. Marina Shitikova, **Luige Vladareanu**, Claudio Guarnaccia, “Recent advances in civil engineering and mechanics”, WSEAS Press, 2014
11. Nicu Ionescu, Tom Savu, Iulian Tabara, **Adrian Bruja, Luige Vladareanu**, Constantin OPRAN, Proceedings of Conference ICAMAT&Robotics&Polcom 2014, Trans Tech Publication, ISBN 978-0-00001-975-2
12. **Vlădăreanu L.**, Migdalovici M., Honorary Editors: Munteanu R., Sireteanu T., Capitanu L., Magheti I., „*Proceedings of the XXIVth Annual Symposium of the Institute of Solid Mechanics and Session of the Commission of Acoustics SISOM&ACOUSTICS 2013*”, May 21-22, Bucharest, Editors-in-Chief Luige Vladareanu, Editura Mediamira, Cluj-Napoca, 2014, pp. 283, ISSN 1843-5459
13. W. Cai&C. Yung, F. Smarandache, **L. Vladareanu**, Q. Zou, Y. Zhao, X. Li, “Extensics and Innovation Methods”, CRC Press, Taylor&Francis Group, New York, 2013, pp. 336, ISBN 978-1-136-00049-0, <http://www.crcpress.com/product/isbn/9781138000490>
14. **Vlădăreanu L.**, Migdalovici M., Honorary Editors: Munteanu R., Sireteanu T., Capitanu L., Magheti I., „*Proceedings of the XXIIIth Annual Symposium of the Institute of Solid Mechanics and Session of the Commission of Acoustics SISOM&ACOUSTICS 2012*”, May 25-26, Bucharest, editori: Editura Mediamira, Cluj-Napoca, 2012, pp. 424, ISSN 1843-5459

15. R.Leandre, M.Demiralp, M.Tuba, **L.Vlădăreanu**, O.Martin, N.Mastorakis, G.-R.Gillich, S.C.Cismas, *Proceedings of the European Computing Conference (ECC'11)*, Paris, 2011, WSEAS Press, 2011, 486 pag., ISBN 978-960-474-297-4.
16. R.Leandre, M.Demiralp, M.Tuba, **L.Vlădăreanu**, O.Martin, N.Mastorakis, G.-R.Gillich, *Proceedings of the 4th WSEAS International Conference on Finite Differences - Finite Elements - Finite Volumes - Boundary Elements (F-and-B '11)*, Paris, 2011, WSEAS Press, 2011, 160 pag., ISBN 978-960-474-298-1
17. **Vlădăreanu L.**, Migdalovici M., Honorary Editors: Munteanu R., Sireteanu T., Capitanu L., Chiroiu V., Magheti I., *Proceedings of the XXIIth Annual Symposium of the Institute of Solid Mechanics and Session of the Commission of Acoustics SISOM&ACOUSTICS 2011*, May 25-26, Bucharest, 2011, 449 pag., ISSN 2068-0481.
18. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches in system science, Proceedings of the 15th International Conference on Systems*, Corfu Island, Greece, pp.481, ISBN: 978-1-61804-023-7, ISSN: 1792-4235, 2011, ISI Proceedings
19. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches in circuits, systems and signal processing*, Proceedings of the 5th International Conference on Circuits, Systems and Signals (CSS '11), Corfu Island, Greece, pp.227, North Atlantic University Union, ISBN: 978-1-61804-017-6, 2011, ISI Proceedings
20. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches in computer science*, Proceedings of the 15th International Conference on Computers, Corfu Island, Greece, pp.535, ISBN: 978-1-61804-019-0, ISSN: 1792-4251, 2011, ISI Proceedings
21. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches in communication and IT*, Proceedings of the 5th International Conference on communication and Information Conferences (CIT'11), Corfu Island, Greece, pp.323, North Atlantic University Union, ISBN: 978-1-61804-018-3, 2011, ISI Proceedings
22. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches on Applied Mathematics, Simulation, Modelling*, Proceedings of the 5th International Conference on Applied Mathematics, Simulation, Modelling (ASM '11), Corfu Island, Greece, pp.203, North Atlantic University Union, ISBN: 978-1-61804-016-9, ISSN: 1792-4332, 2011, ISI Proceedings
23. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches in Educational Technologies*, Proceedings of the 2th International Conference on Educational Technologies 2011 (WORLD-EDU '11), Corfu Island, Greece, pp.303, North Atlantic University Union, ISBN: 978-1-61804-021-3, ISI Proceedings
24. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches in geography, geology, energy, environment and biomedicine*, Proceedings of the 4th international Conference on Engineering Mechanics, Structures, Engineering Geology (EMESEG '11), Corfu Island, Greece, pp.517, North Atlantic University Union, ISBN: 978-1-61804-022-0, ISI Proceedings
25. Nikos Mastorakis, Valeri Mladenov, Zoran Bojkovic, **Luige Vladareanu**, et. all., *Recent researches on Mechanics*, Proceedings of the 2th International Conference on Theoretical and Applied Mechanics (TAM '11), Corfu Island, Greece, pp.411, North Atlantic University Union, ISBN: 978-1-61804-020-6, 2011, ISI Proceedings
26. **Vlădăreanu L.**, Migdalovici M., Honorary Editors: Radu Voinea, Munteanu R., Sireteanu T., Capitanu L., Magheti I., „Proceedings of the XXIst Annual Symposium of the Institute of Solid Mechanics and Session of the Commission of Acoustics SISOM&ACOUSTICS 2010”, May 27-28, Bucharest, editori: Editura Mediamira, Cluj-Napoca, 2010, pp. 483, ISSN 2068-0481

27. Kun Gao, G.A. Kouzaev, **L. Vladareanu**, et. all. - Editors, Advanced Applications of Electrical Engineering, Published by WSEAS Press, **Proceedings of the 8th International Conference on Applications of Electrical Engineering (AEE '09)**, Houston, USA, pp. 228, ISSN: 1790-5117 , ISBN: 978-960-474-072-7, 2009, ISI Proceedings
28. Vasilis Zafiris, Maria Benavides, **Luige Vladareanu**, - Editors, Recent Advances in Applied Mathematics, Computational, Information Sciences, vol.1, **Proceedings of the 15th American Conference on Applied Mathematics, Houston, USA**, pp.238, 2009, ISSN: 1790-5117, ISBN: 978-960-474-071-0
29. Shohreh Hashemi, Carol Vobach, Vasilis Zafiris, **Luige Vladareanu**, et. all. - Editors, Advances in Marketing, Management and Finances, **Proceedings of the 3rd International Conference on Management, Marketing and Finances, Houston, USA**, pp.206, 2009, ISSN: 1790-5117 , ISBN: 978-960-474-073-4
30. Katarina Jegdic, Plamen Simeonov, **Luige Vladareanu**, et. all. - Editors, Recent Advances in Applied Mathematics, Computational, Information Sciences, vol.2, **Proceedings of the 15th American Conference on Applied Mathematics, Houston, USA**, pp.529, 2009, ISSN: 1790-5117, ISBN: 978-960-474-071-0
31. **L. Vladareanu**, Migdalovici- Chif Editors, Radu P. Voinea, Radu I. Munteanu, T. Sireteanu, L. Capitanu, V. Chiroiu- Honorary Editors, Proceedings of *The Annual Symposium of the Institute of Solid Mechanics*, SISOM 2009, pp.628, Editura Mediamira (cotata B - CNCSIS), 2009, ISBN 978-973-713-179-9
32. M. Iliescu, Radu I. Munteanu, Juan F. Solis, **L. Vladareanu**, et.all., **Recent Advances in Data Network, Communication, Computers**, Proceedings of the 7th International Conference (DNCOCO '08), Bucharest, Nov.2008, pp. 163, **2008**, ISSN: 1790-5109, ISBN: 978-960-474-020-8
33. M. Iliescu, Radu I. Munteanu, Juan F. Solis, **L. Vladareanu**, et.all., Recent Advances in Sensors and Signals, **Proceedings of the 1st International Conference SENSIG '08**, Bucharest, Nov. 2008, **pp. 107**, ISSN: 1790-5117, ISBN: 978-960-474-021-5
34. **Luige Vladareanu**, Venturia Chiroiu, Polidor Bratu, Ion Magheti, *Proceedings of the 9th International Conference on AUTOMATION and INFORMATION (ICAI '08)*, Published by WSEAS Press, 2008, ISBN: 978-960-6766-77-0, ISSN: 1790-5117
35. **Luige Vladareanu**, Venturia Chiroiu, Polidor Bratu, Ion Magheti, *Proceedings of the 9th International Conference on ACOUSTICS & MUSIC: THEORY & APPLICATIONS (AMTA '08)*, Published by WSEAS Press, 2008, ISBN: 978-960-6766-74-9, ISSN: 1790-5095
36. **Luige Vladareanu**, Venturia Chiroiu, Polidor Bratu, Ion Magheti, *Proceedings of the 9th International Conference on MATHEMATICS & COMPUTERS IN BIOLOGY & CHEMISTRY (MCBC '08)*, Published by WSEAS Press, 2008, ISBN: 978-960-6766-75-6, ISSN: 1790-5125
37. **Luige Vladareanu**, Venturia Chiroiu, Polidor Bratu, Ion Magheti, *Proceedings of the 9th International Conference on MATHEMATICS and COMPUTERS in BUSINESS AND ECONOMICS, (MCBE '08)*,), Published by WSEAS Press, 2008, ISBN: 978-960-6766-76-3, ISSN: 1790-5109
38. N.Mastorakis, Ph Dondon, **L. Vladareanu**, et.all, Abstract Book of the Proceedings of European Computing Conference, Published by WSEAS Press
39. **L. Vladareanu**, Migdalovici- Chif Editors, Radu P. Voinea, Radu I. Munteanu, T. Sireteanu, L. Capitanu, V. Chiroiu- Honorary Editors, Proceedings of *The Annual Symposium of the Institute of Solid Mechanics*, SISOM 2008, pp.628, **Editura Mediamira (cotata B - CNCSIS), 2008**, ISBN 978-973-713-179-9
40. **L. Vladareanu**, Migdalovici- Chif Editors, Radu P. Voinea, Radu I. Munteanu, T. Sireteanu, L. Capitanu, V. Chiroiu- Honorary Editors, The SISOM, Abstracts Book, pp.59, Editura Mediamira, 2008

41. N.Mastorakis, Ph Dondon, **L. Vladareanu**, et.all, European Computing Conference Book of Abstracts, Editors: pp.110, Published by WSEAS Press, (www.wseas.org), 2007
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15. **L.Vladareanu** – *Metoda si aparat pentru determinarea numarului de anvelope pe sortimente, intr-o gama prestabilita* (*Method and device for determination the number of tires on each type, in an pre-established range*) – / 77460 / 29.05.81
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19. **L.Vladareanu** - Automatizare camere aer (Air chambers automation)

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Research, development and innovation grant. Project manager

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2. L. Vladareanu, director proiect, “*Sistem de automatizari complexe modulare cu dispecerizare la distanta pentru controlul fluxului tehnologic la morile de grau si porumb - AUTMPG*” (Complex modular automation system with remote control dispatching for technological flow control in wheat and corn mills - AUTMPG), Grant PN II INOVARE, AMCSIT ID_1250, contract 127/2007, National Program PN II INOVARE, program coordinator AMCSIT, 2007-2010
3. **L. Vladareanu-director proiect;** Colectiv: prof. dr. ing. Radu Munteanu, Dr. ing. Sergiu Cononovici, Prof. dr. ing. Ioan G. Tarnovan, dr. ing. Ion Nitu, Dr. ing. Wladimir-Romarian-

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2. International cooperation for Extenics applications on robotics in solving contradictory with the Research Institute of Extenics and Innovation Methods, Guangdong University of Tehnology, China, **Prof. Cai Wen**, Extenics founder. Coordonator IMSAR: **Luige Vladareanu**. Funding Guangdong University of Tehnology, 1 month/2 persons.
3. International cooperation, World Scientific and Engineering Academy and Society, WSEAS, Current Projects of Scientific Research: *Mechanics – Robotics*, <http://www.wseas.org/>

4. Grant acordat de **Royal Society** /2005-2007, *Smart control of buildings, historic and modern, subject to seismic excitation*, colaborare cu Univ. din Bath, UK, Departamentul de Inginerie Mecanica- membru in colectivul de cercetare;
5. Grant acordat de **Institutul Suedez** /2002-2006, *Active and passive damping with application in manufacturing*, colaborare cu Institutul Regal de Tehnologie din Stockholm, Departamentul de Mecanica si Inst. pentru Productie Industrială- membru in colectivul de cercetare;
6. Grant acordat de **Royal Society** /2002-2004, *Smart systems for mitigation of machine and structural response*, colaborare cu Univ. din Bath, UK, Departamentul de Inginerie Mecanica-membru in colectivul de cercetare;
7. L. Vladareanu, **Leonardo da Vinci 2003 - Pilot Proiect 112511 "VICO-ECOM", 2002-2006, faza 1, Procedura B 2001**
8. **L Vladareanu –director, international contract 1996-2000, Engineering contract for automation with electrical devices made by ABB – Stotz, Germania**
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Research, development and innovation grant. Parner project manager

1. **L. Vladareanu- IMSAR responsible** as a project partner; *"Cercetări privind controlul inteligent al unui sistem de propulsie electric hibrid cu transmisie continuă (CVT)" (Research on intelligent control of a hybrid electric propulsion system with continuous transmission (CVT), 008-2011, contract 72209/01.10.2008, Grant PN II PARTENERIATE, program coordinator CNMP, project coordinator University of Pitesti*
2. **L. Vladareanu-responsabil** as a project partner; *Sisteme bazate pe viziune pentru monitorizare si control inteligent – ViSICoM, 2006-2008 (Vision-based systems for monitoring and intelligent control– ViSICoM), Grant CEEEX 2006, AMTRANS, cod X2C22, program coordinator CEEEX 2006 national AMTRANS, project manager: rector Radu Munteanu, UTCN*
3. **L. Vladareanu-responsabil** as a project partner *"Sistem automat cu control in timp real configurabil si modular- CAPRINI" (Automatic, configurable and modular real time control system - CAPRINI), 2007-2011, Grant PN II INOVARE, AMCSIT, contract 011/2007, National Program PN II INOVARE, program coordinator AMCSIT*
4. **L. Vladareanu-responsabil** as a project partner , **Grant PN II INOVARE, AMCSIT, National Program PN II INOVARE, program coordinator AMCSIT** , director project dr. I.Ursu, 2010
5. **Luige Vladareanu – responsible** as a project partner, *RELANSIN 1713/2002-2005 – "Complex Automation and Drive System with PLCs, for facilities that produce concentrated preparation of ores by a flotation process with remote dispatching through a GSM and modem network" phase 1, 2 and 3 from 2003-2005*
9. **L Vladareanu – responsible** as a project partner, *MENER 2001-2004, ctr. 020/2001 "Upgrading exploitation technologies in physical pre-concentration of uranium ore in active mines to reduce production costs and raw material for making nuclear fuel from domestic resources"*
10. **L Vladareanu – responsible** as a project partner, *MENER 2001-2004, ctr. 002/2001, - "Efficiency recovery with minimum environmental impact of a uranium deposit in the Eastern Carpathians in order to provide nuclear fuel in accordance with the requirements of the national nuclear"*
11. **L Vladareanu – responsible** as a project partner, *RELANSIN 2000-2003, ctr.1266/2000 - "Studies and applied research for complex automation with leading equipment made of*

programmable logical controllers in a decentralized and distributed structure of duplex milling centers”

12. T. Sireteanu-project manager;; collective: prof. R. Munteanu, L. M. Velea, **L. Vladareanu**, prof. I. Tarnovan, D. Stancioiu, D. Marin, C. Streza, M. Giuglea, V. Bogdanescu, F. Mailat, G. Vladeanu, GR. CNCSIS nr.1369/ 2002-2004 *“Smart mechanical vibrations control by magnetoreologic fluids with complex automation programmable logic implementation”*
13. T. Sireteanu; -project manager, collective prof. R. Munteanu, L. M. Velea, **L. Vladareanu**, prof. I. Tarnovan, D. Stancioiu, D. Marin, C. Streza, M. Giuglea, V. Bogdanescu, F. Mailat, G. Vladeanu Gr. CNCSIS 126/2003-2004 - *“Smart mechanical vibrations control by magnetoreologic fluids with complex automation programmable logic implementation”*
14. **L. Vladareanu** –project partner , GR UTC, *“Research on the implementation of automatic discharge, handling, packaging, palletizing finished products facilities to achieve an experimental complex command, control and drive system model for a dedicated flow”* Phase 1/2000 - Studies and research on automation and electrical drive for the discharge manipulator
15. **Luige Vladareanu** –responsible, collective: .Tudor Sireteanu; Ghe.Ghita, D. Stancioiu; Doina Marin, C. Streza, C.Lala, *Program no. 1 of the Romanian Academy in 2003: Dynamic problems in solid mechanics. Project 1.1. Dynamic problems in solid mechanics; Objective: 1.1.4. Command and control system in decentralized and distributed structure to dynamic relief the mechanical systems through vibration, responsible: Program no. 1 on 2002: Dynamic problems in solid mechanics. Project 1.1. Vibration control in mechanical systems. Objective: 1.1.4. Using PLCs in excitation control and dynamic system response.*
16. **L. Vladareanu** –project responsible; collective: dr. Tudor. Sireteanu, Dr. ing. Sergiu Conovici, Marcel Migdalovici, Ion Nitu, Gh. Ghita, *Program no. 1 Romanian Academy in 2001: Dynamic problems in solid mechanics. Project 1.1. Dynamic systems. Objective: 1.1.3 Using PLCs in dynamic system control with industrial applications.*
17. **L. Vladareanu** – project responsible; collective: dr. T. Sireteanu, drd. Gh. Ghita, ing. D. Marin, *Program no. 1 Romanian Academy in 2000: Dynamic problems in solid mechanics. Project 1.1. Dynamic systems. Objective: 1.1.3 Using PLCs in dynamic system control with industrial applications*
18. **L Vladareanu** – project partner, GR 536/1999-2001, ORIZONT 2000, Tema B2, *“Ccomplex automation module with programmable logic for leading the compound food manufacturing processes in small capacity computer assisted plant with an independent power source supply”*

Chairman in ISI International Conferences (ISI, IEE, ELSEVIER, CSA, etc.)

1. **Vasilis Zafiris, Maria Benavides, Kun Gao, Vladareanu L.** Chairman conference, **The 8th International Conference on Applications of Electrical Engineering (AEE '09), Houston, USA , April 30-May 2, 2009**
2. Vasilis Zafiris, Maria Benavides, Kun Gao, **Vladareanu L.**, Chairman conference, The 8th International Conference on Applied Electromagnetics, Wireless and Optical Communications (ELECTRO '09), Houston, USA , April 30-May 2, 2009
3. Vasilis Zafiris, Maria Benavides, Kun Gao, **Vladareanu L.**, Chairman conference, Tthe International Conference on Computational and Information Science 2009, Houston, USA , April 30-May 2, 2009
4. Vasilis Zafiris, Maria Benavides, Kun Gao, **Vladareanu L.**, Chairman conference, The 15th American Conference on Applied Mathematics , Houston, USA , April 30-May 2, 2009
5. Vasilis Zafiris, Maria Benavides, Kun Gao, **Vladareanu L.**, Chairman conference, The 3rd International Conference on Management, Marketing and Finances, Houston, USA, April 30-May 2, 2009
6. Vasilis Zafiris, Maria Benavides, Kun Gao, **Vladareanu L.**, Chairman conference, The 15th American Conference on Applied Mathematics, Houston, USA , April 30-May 2, 2009
7. Vasilis Zafiris, Maria Benavides, Kun Gao, **Vladareanu L.**, Chairman conference, The International Conference on Computational and Information Science 2009, Houston, USA , April 30-May 2, 2009
8. **Vladareanu L.** Chairman conference, Acad. Radu P. Voinea, Tudor Sireteanu, Malcolm J. Crocker, Honorary Chair, 9th Int.Conf. on ACOUSTICS & MUSIC: THEORY & APPLICATIONS (AMTA '08), Conferinta internationale din Programul Manifestarilor Academiei Romane, Bucharest, 24-26 June 2008
9. **Vladareanu L.** Chairman conference, **Paul.D.Cristea, Pier Paolo Delsanto, Jose M.Kenny, Panos Liatsis, Honorary Chair**, 9th Int. Conf. on MATHEMATICS AND COMPUTERS IN BIOLOGY AND CHEMISTRY (MCBCh'08), Conferinta internationale din Programul Manifestarilor Academiei Romane, Bucharest, 24-26 June 2008
10. **Vladareanu L.** Chairman conference, **Radu I. Munteanu, Hongnian Yu, Adrian Curaj, Mihai O. Popescu, Honorary Chair**, 9th Int. Conf. on MATHEMATICS AND COMPUTERS IN BUSINESS AND ECONOMICS (MCBE'08), Conferinta internationale din Programul Manifestarilor Academiei Romane, Bucharest, 24-26 June 2008
11. **Vladareanu L.** Chairman conference, **Acad. Florin G. Filip, Ioan Dumitrache, Sergej Fatikow, Antonio Sanchez, Honorary Chair**, 9th Int. Conf. on AUTOMATION & INFORMATION (ICAI'08), Conferinta internationale din Programul Manifestarilor Academiei Romane, Bucharest, 24-26 June 2008
12. **Vladareanu L.**, co.chairman conference, EUROPEAN COMPUTING CONFERENCE, Vouliagmeni Beach, Athens, Greece, September 25-27, 2007 (<http://ecc07.wseas.org/#Chair>)
13. **Vladareanu Luige**, Valeri Mladenov, Chair session Systems Theory and Computer Techniques, 10th International Conference on SYSTEMS, Vouliagmeni, Athens, Greece, July 10-12, 2006
14. **Vladareanu Luige**, Valeri Mladenov, Chair session , 4th Int. Conf. on SYSTEM SCIENCE and ENGINEERING (ICOSSE 2005), Rio de Janeiro, Brazil, April 25 to 27, 2005.
15. **Vladareanu Luige**, Chair of session Systems Theory and Computer Techniques, World Scientific and Engineering Academy Society , ESPOCO2005, Rio de Janeiro, Brazil, 2005

Member of the international conferences scientific committees:

1. **Vladareanu L.**, members of the scientific committee, **The 12th International Conference on COMMUNICATIONS** Heraklion, Crete Island, Greece, July 23-25, 2008
<http://www.wseas.org/conferences/2008/greece/iccom>
2. **Vladareanu L.**, members of the scientific committee, **The 12th International Conference on SYSTEMS**, Heraklion, Crete Island, Greece, July 22-24, 2008
<http://www.wseas.org/conferences/2008/greece/ics>
3. **Vladareanu L.**, members of the scientific committee, **The 12th International Conference on CIRCUITS**, Heraklion, Crete Island, Greece, July 22-24, 2008
<http://www.wseas.org/conferences/2008/greece/icc>
4. **Vladareanu L.**, members of the scientific committee, 9th Int.Conf. on MATHEMATICAL and COMPUTATIONAL METHODS in SCIENCE and ENGINEERING (MACMESE'07), Trinidad and Tobago, November 5-7, 2007 <http://www.wseas.org/conferences/2007/tt/macmese>
5. **Vladareanu L.**, members of the scientific committee, 9th International Conference on DATA NETWORKS, COMMUNICATIONS and COMPUTERS (DNCOCO'2007), Trinidad and Tobago, November 5-7, 2007 <http://www.wseas.org/conferences/2007/tt/dncoco>
6. **Vladareanu L.**, members of the scientific committee, The 11th International Conference on CIRCUITS, Agios Nikolaos, Crete Island, Greece, July 26-28, 2007,
<http://www.wseas.org/conferences/2007/greece/icc/>
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<http://www.wseas.org/conferences/2007/greece/iccomp>
10. **Vladareanu L.**, members of the scientific committee, The Annual Symposium of the Institute of Solid Mechanics – Romanian Academy, SISOM 2007
11. **Vladareanu L.**, members of the scientific committee, The Annual Symposium of the Institute of Solid Mechanics – Romanian Academy, SISOM 2006

Member of the national and international collectives and professional associations

1. Member of International Institute of Acoustics and Vibration (**IIAV**), Auburn University,USA, from 2004 -
2. Member of ABI's Research Board of Advisors Member, American Biographical Institute (**ABI**), from 2006-
3. Member of the World Scientific and Engineering Academy Society, from 2005-
4. Member of the International Association for Modelling and Simulation Techniques in Enterprises-AMSE,France, from 2004-
5. **Vice President** of the Robotics Society of Romania, Bucharest Branch
6. Member of the Expert Group **PNC DI 2007-2013**
7. Member of the Commission of "Engineering Sciences" of National Council for Scientific Research in Higher Education (CNCSIS), 2005-2006

8. Advisory member of the Council of National Council for Scientific Research in Higher Education (CNCSIS), 2004- 2007
9. President of the Evaluation Committee of the Center for Automation and Computer Engineering from the Technical University Gh.Asachi, 2005, CNCSIS
10. Member of the Romanian Robotic Association – **ARR** (from 1991);
11. Member of the Romanian Tribology Association – **ART** (from 1990)
12. Member of the International Association **DIGITAL** (from 1995)

National and international prizes awarded by professional associations and prestigious institutions after a demonstrable evaluation process

1. **Premiul Academiei Romane, “Traian Vuia”** (2006), award of the Romanian Academy, Romania’s highest scientific research forum, for a group of scientific papers published in the real time control in the solid mechanics, **awarded in 2008**.
2. The 43rd International Exhibition of Inventions of Geneva 2015, 13-15 April 2015 “*Haptic Robot Control on Uneven Terrain and Uncertain Enviromentt*”, Patent OSIM A2014 0577/29.07.2014, Authors:Luige Vladareanu, Radu I. Munteanu, Shuang Cang (UK) , Hongnian Yu (UK), Hongbo Wang (China), Victor Vladareanu, Zeng Guang Hou (China), Octavian Melinte, Xiaojie Wang (China), Guibin Bian (China), Yongfei I Feng (China), OSIM no. A2014 00577 from 29/07/2014
 - Gold Medal and International Prize of the Geneva International Invention Exhibition 2015
 - Awards from Europe France Inventors
 - China Association of Inventors,
 - Russian Federation, NOVGOROD R E Alekseev Technical University
 - • OSIM Romanian Association of Inventions
 - Stefan Cel Mare University
3. Gold medal and Internațional Prize of The 63rd International Innovation Exhibition EUREKA, INNOVA 2014, Brussels, 13-15November 2014, “Method and Device for Hybrid Force-Position extended control of robotic and mechatronic systems”, **Luige Vlădăreanu**, Cai Wen, Munteanu Radu Ioan, Yan Chunyan, **Vlădăreanu Victor**, Munteanu Radu Adrian, Li Weihua, Florentin Smarandache, **Ionel Alexandru Gal**, Patent OSIM A2012 1077/28.12.2012
4. Gold medal and Internațional awarded by the Researches Agency,from Croatia, to The 63rd International Innovation Exhibition EUREKA, INNOVA 2014, Brussels, 13-15November 2014, “Method and Device for Hybrid Force-Position extended control of robotic and mechatronic systems”, **Luige Vlădăreanu**, Cai Wen, Munteanu Radu Ioan, Yan Chunyan, **Vlădăreanu Victor**, Munteanu Radu Adrian, Li Weihua, Florentin Smarandache, **Ionel Alexandru Gal**, Patent OSIM A2012 1077/28.12.2012
5. Premiu si medalie de aur la Salonul Cercetării Românești și Salonul de Invenții și Inovații – INVENTIKA, 15-18 octombrie, 2014, Bucuresti, “Method and Device for Hybrid Force-Position extended control of robotic and mechatronic systems”, **Luige Vlădăreanu**, Cai Wen, Munteanu Radu Ioan, Yan Chunyan, **Vlădăreanu Victor**, Munteanu Radu Adrian, Li Weihua, Florentin Smarandache, **Ionel Alexandru Gal**, Patent OSIM A2012 1077/28.12.2012
6. **Luige Vladareanu**, Cai Wen, Munteanu Radu Ioan, Yan Chunyan, Vladareanu Victor, Munteanu Radu Adrian, Li Weihua, Florentin Smarandache, Ionel Alexandru Gal, **Gold medal and International Prize** of the 42st International Exhibition of Inventions of

- Geneva 2014, 2-6 April 2014 “*Method and Device for Hybrid Force-Position extended control of robotic and mechatronic systems*”, Patent OSIM A2012 1077/28.12.2012
7. **Luige Vladareanu**, Cai Wen, Munteanu Radu Ioan, Yan Chunyan, Vladareanu Victor, Munteanu Radu Adrian, Li Weihua, Florentin Smarandache, Ionel Alexandru Gal, **International awarded** by the TECHNOPOL Scientific and Technology Association of the Russian Federation, The 42st International Exhibition of Inventions of Geneva 2014, 2-6 April 2014 “*Method and Device for Hybrid Force-Position extended control of robotic and mechatronic systems*”, Patent OSIM A2012 1077/28.12.2012
 8. **Luige Vladareanu**, Lucian M. Velea, Radu I. Munteanu, Adrian Curaj, Sergiu Cononovici, Tudor Sireteanu, Lucian Capitanu, Mihai Munteanu, **Gold medal and International Prize** of the 41st International Exhibition of Inventions of Geneva 2013, 10-14 April 2013, “*Real time control method and device for robot in virtual projection*”, Patent OSIM 123527/30.04.2013
 9. **Luige Vladareanu**, Lucian M. Velea, Radu I. Munteanu, Adrian Curaj, Sergiu Cononovici, Tudor Sireteanu, Lucian Capitanu, Mihai Munteanu, **International awarded** by the TECHNOPOL Scientific and Technology Association of the Russian Federation, The 41st International Exhibition of Inventions of Geneva 2013, 10-14 April 2013, “*Real time control method and device for robot in virtual projection*”, Patent OSIM 123527/30.04.2013
 10. Luige Vladareanu, Radu Ioan Munteanu, Radu Adrian Munteanu, Dan Pantea, Cristian Spirleanu, **Gold medal and international Prize of the 39th International Exhibition of Inventions of Geneva 2011**, for the patent: *Method and device of biometrically secured telephony*
 11. Luige Vladareanu, Radu Ioan Munteanu, Radu Adrian Munteanu, Dan Pantea, Cristian Spirleanu, **International awarded** by the TECHNOPOL Scientific and Technology Association of the Russian Federation, Moscow, in **the 39th International Exhibition of Inventions of Geneva 2011**, for the patent: *Method and device of biometrically secured telephony*
 12. Ovidiu Ilie Sandru, Radu I. Munteanu, Luige Vlădareanu, Lucian M. Velea, Paul Şchiopu, Mihai S. Munteanu, Alexandra Şandru, Gabriela Tonţ, Victor Vlădareanu, Ioan Bacalu, Lucian Stanciu, **Gold medal and international Prize of the 39th International Exhibition of Inventions of Geneva 2011**, for the patent: *Method and device of propulsion without any source of self-energy for mobile systems*
 13. Ovidiu Ilie Sandru, Radu I. Munteanu, Luige Vlădareanu, Lucian M. Velea, Paul Şchiopu, Mihai S. Munteanu, Alexandra Şandru, Gabriela Tonţ, Victor Vlădareanu, Ioan Bacalu, Lucian Stanciu, **International award** awarded by Politechnica University of Hong Kong, **the 39th International Exhibition of Inventions of Geneva 2011**, for the patent: *Method and device of propulsion without any source of self-energy for mobile systems*
 14. **Luige Vladareanu**, Radu Ioan Munteanu, Radu Adrian Munteanu, Dan Pantea, Cristian Spirleanu, **International Medal of the 9th a International Exhibition of Inventions -ARCA 2011, Zagreb, CROAȚIA, 13-15 October 2011**, for the patent: *Method and device of biometrically secured telephony*
 15. Ovidiu Ilie Sandru, Radu I. Munteanu, **Luige Vlădareanu**, Lucian M. Velea, Paul Şchiopu, Mihai S. Munteanu, Alexandra Şandru, Gabriela Tonţ, Victor Vlădareanu, Ioan Bacalu, Lucian Stanciu, **Gold Medal of the 9th a International Exhibition of Inventions -ARCA 2011, Zagreb, CROAȚIA, 13-15 October 2011**, for the patent: *Method and device of propulsion without any source of self-energy for mobile systems*
 16. **L.Vlădăreanu**, R.I.Munteanu, R.A.Munteanu, D.Pantea, C.Spîrleanu, **Gold Medal** of ROMANIAN Inventions at 5-th IWIS Exhibition, 3-5 November 2011, Warsaw, Poland, for the patent: *Method and device of biometrically secured telephony*.

17. E.I.8) O.I.Şandru, R.I.Munteanu, **L.Vlădăreanu**, L.M.Velea, P.Şchiopu, M.S.Munteanu, A.Şandru, G.Tonţ, V.Vlădăreanu, I.Bacalu, L.Stanciu, **Gold Medal** of ROMANIAN Inventions at 5-th IWIS Exhibition, 3-5 November 2011, Warsaw, Poland, for the patent: *Method and device of propulsion without any source of self-energy for mobile systems*.
18. L.Vladareanu, L.M.Velea, R.A.Munteanu, T.Sireteanu, M.S.Munteanu, V.Vladareanu, C.Balas, G.Tont, O.D.Melinte, D.G.Tont, A.I.Gal, **Gold Medal** of the IV-th International Warsaw Invention Show **IWIS 2010**, for the patent: *Method and Device for Walking Robot Dynamic Control*.
19. L.Vladareanu, L.M.Velea, R.A.Munteanu, T.Sireteanu, M.S.Munteanu, V.Vladareanu, C.Balas, G.Tont, O.D.Melinte, D.G.Tont, A.I.Gal, **Gold medal and international Prize of the 38th International Exhibition of Inventions of Geneva 2010**, for the patent: *Method and Device for Walking Robot Dynamic Control*.
20. L.Vladareanu, L.M.Velea, R.A.Munteanu, T.Sireteanu, M.S.Munteanu, V.Vladareanu, C.Balas, G.Tont, O.D.Melinte, D.G.Tont, A.I.Gal, **International Award and Diploma** of International Warsaw Inventions Show **IWIS**, Association of Polish Inventors and Rational, in **the 38th International Exhibition of Inventions of Geneva 2010**, for the patent: *Method and Device for Walking Robot Dynamic Control*.
21. L.Vladareanu, L.M.Velea, R.A.Munteanu, T.Sireteanu, M.S.Munteanu, V.Vladareanu, C.Balas, G.Tont, O.D.Melinte, D.G.Tont, A.I.Gal, **Medal and international Prize** of The X Moscow International Salon Of Innovations and Investments, September 2010, Moscow, Russia, for the patent: *Method and Device for Walking Robot Dynamic Control*.
22. R.I.Munteanu, L.Vladareanu, O.Sandru, L.M.Velea, H.Yu, N.Mastorakis, G.Tont, E.Diaconescu, R.A.Munteanu, V.Vladareanu, A.Sandru, **Special Prize, in Recognition of Meritorious Achievements for the Innovative Invention**, Isfahan University of Technology, Robotic Center, Republic of Iran, in **The 38th International Exhibition of Inventions of Geneva 2010**, for the patent: A00626/07.08.09: *Method and Device for Driving Mobil Inertial Robots*.
23. R.I.Munteanu, L.Vladareanu, O.Sandru, L.M.Velea, H.Yu, N.Mastorakis, G.Tont, E.Diaconescu, R.A.Munteanu, V.Vladareanu, A.Sandru, **Gold Medal with mention and International Prize of the 38th International Exhibition of Inventions of Geneva 2010**, for the patent: A00626/07.08.09: *Method and Device for Driving Mobil Inertial Robots*.
24. R.I.Munteanu, **L.Vladareanu**, O.Sandru, L.M.Velea, H.Yu, N.Mastorakis, G.Tont, E.Diaconescu, R.A.Munteanu, V.Vladareanu, A.Sandru, **Gold medal** of The X Moscow International Salon Of Innovations And Investments, September 2010, Moscow, Russia, for the patent: *Method and Device for Driving Mobil Inertial Robots*.
25. O.I.Sandru, R.I.Munteanu, **L.Vladareanu et al.**, **International awarded** by the **TECHNOPOL** Scientific and Technology Association of the Russian Federation, Moscow, in The Belgian International Trade Fair for Technological Innovation, EUREKA, Bruxelles, November 2010, for the patent: *Method and device of propulsion without any source of self-energy for mobile systems*.
26. R.I.Munteanu, **L.Vladareanu**, O.Sandru, L.M.Velea, H.Yu, N.Mastorakis, G.Tont, E.Diaconescu, R.A.Munteanu, V.Vladareanu, A.Sandru, **Gold Medal with Mention** of the IV-th International Warsaw Invention Show **IWIS 2010**, for the patent: *Method and Device for Driving Mobil Inertial Robots*.
27. **L.Vladareanu**, R.I. Munteanu, A.Curaj, S.Cononovici, T.Sireteanu, L.Capitanu, M.S.Munteanu, **International Award and Diploma** of International Warshaw Inventions Show **IWIS**, Association of Polish Inventors and Rationalizers, in the Belgian International Trade Fair

- for Technological Innovation, EUREKA, Bruxelles, November 2009, for the patent: EPO-09464001/2009: *Real time control method and device for robot in virtual projection*.
28. **Gold medal in "Salon International des Inventions", Geneve, 37th Edition, 1 – 5 April 2009**, Geneva, Elvetia, for the patent: **"Real time control method and device for robot in virtual projection"**
 29. **International award in "Salon International des Inventions", Geneve, 37th Edition, 1 – 5 April 2009**, Geneva, Elvetia acordat de Ministry of Industry and Trade of Russian Federation, The Radio Electronics Industry Department.
 30. O.I.Sandru, R.I.Munteanu, L.Vladareanu *et al.*, **Gold Medal and International Prize** of The Belgian International Trade Fair for Technological Innovation, EUREKA, Bruxelles, November 2009, for the patent: *Method and device of propulsion without any source of self-energy for mobile systems*
 31. **Gold Medal in the International Salon of Inventions: INNOVA ENERGY**, 13-15 Noiembrie 2008 la Bruxelles, BELGIA
 32. **International award "CPExposition 2008"** awarded by the organizing committee of **International Salon of inventions: INNOVA ENERGY**, 13-15 November 2008 la Bruxelles, BELGIA
 33. **Gold Medal in the International Salon ARCA 2008**, Zagreb, Croatia for "Method et dispositif de controle en temps reel d'actuateurs " **Luige Vladareanu, Lucian Marius Velea, Radu A. Munteanu, M. Munteanu, et.all.**
 34. **Gold Medal in "Salon International des Inventions", Geneve, 36th Edition, 4 – 8 April 2008**, Geneva, Elvetia, pentru "*Method et dispositif de controle en temps reel d'actuateurs* " **Luige Vladareanu, Lucian Marius Velea, Radu A. Munteanu, et.all.**
 35. **The award "PRIX DE L'AGEPI" warded in "Salon International des Inventions", Geneve, 36th Edition, 4 – 8 April 2008**, Geneva, Switzerland, for "*Method et dispositif de controle en temps reel d'actuateurs* " **Luige Vladareanu, Lucian Marius Velea, Radu A. Munteanu, et.all.**
 36. **Gold Medal, 7-11 October 2008, INVENTIKA 2008**, Bucharest, Monitoring system of the leg load in post-traumatic recovery, titular Technical University of Cluj-Napoca, authors: Radu Munteanu, Daniel Moga, F.C. Neaga, Dorin Petreus, Mihai Dumitrean, Mihai Munteanu, Luige Vladareanu.
 37. **The award "Merites de l'Innovation EUREKA"** in rank "**Chevalier** " awarded by the "Maison Communale de St.Joase ", Brussels, Belgium, **25 November 2007, Luige Vladareanu**
 38. **Gold medal "Labor Improbus Omnia Vincit "** awarded by "Maison Communale de St.Joase", Brussels, Belgium, 12 October 2007, **Luige Vladareanu**
 39. **Gold Medal in the Salon INNOVA ENERGY, 22-25 November 2007 la Bruxelles, Belgium**, *The method and device for the rotation speed measurement in high disturbance environment*, **Vladareanu L., L.M. Velea, Radu I.Munteanu, Daniel Moga, Radu A. Munteanu**
 40. **International ward EUREKA 2007 at the 56th edition of the International Competition Bruxelles-EUREKA** dedicated to inventions, **22-25 November 2007 la Bruxelles, Belgium**, *The method and device for the rotation speed measurement in high disturbance environment*, **Vladareanu L., L.M. Velea, Radu I.Munteanu, Daniel Moga, Radu A. Munteanu,**
 41. **Gold medals in the Salon INNOVA ENERGY, System for monitoring the progressive loading of lower limb in post-traumatic rehabilitation, 22-25 November 2007 in Bruxelles, Belgium**, Munteanu Radu, Moga Daniel, Neaga Florian, Petreuscu Dorin, Dumitrean Radu, Munteanu Mihai, **Vladareanu Luige**
 42. **International Award EUREKA 2007 t the 56th edition of the International Competition Bruxelles-EUREKA** dedicated to inventions, **22-25 November 2007 in Bruxelles, Belgium**, *System for monitoring the progressive loading of lower limb in post-traumatic rehabilitation*, Munteanu Radu, Moga Daniel, Neaga Florian, Petreuscu Dorin, Dumitrean Radu, Munteanu

Mihai, **Vladareanu Luige**

43. **Gold medal at the XIth edition of the International Salon of Inventions, Research, Science and New Technology „INVENTIKA-2007”, *Method and device for measuring the rotational speed in highly disturbed environment*, 2-6 October 2007, ROMEXPO, Bucharest, Vladareanu L., L.M. Velea, Radu I. Munteanu, Daniel Moga, Radu A. Munteanu**
44. **Gold Medal in “Salon International des Inventions”, Geneve, 35th Edition, 18 – 22 April 2007, Geneva, “Method et dispositif de mesure pour la vitesse de rotation dans un milieu profond perturbant ” Luige Vladareanu, Lucian Marius Velea, Radu I. Munteanu, Daniel Moga, Radu A. Munteanu,**
45. **Gold Medals in “Salon International des Inventions”, Geneve, 35th Edition, 2007, 18 – 22 April 2007, Geneva, Monitoring System of progressive load in post-traumatic recovery, Munteanu Radu, Moga Daniel, Neaga Florian, Petreuscu Dorin, Dumitrean Radu, Munteanu Mihai, Vladareanu Luige**
46. **Excellence Diploma in research 2000, SIR 2000, Romanian Government, National Agency for Science, Technology and Innovation for the paper– Dozing, transport and storage equipments for macro-components with PLCs in decentralized and distributed structure with PC monitoring, SIR 2000,**
47. **Excellence Diploma in research 2000, SIR 2000, Romanian Government, National Agency for Science, Technology and Innovation for the paper- Multifunctional stall with PLCs for computed aided teaching training - 4-10 December. 2000, SIR 2000,**
48. **Excellence Diploma, SIR 2000 , Romanian Government, National Agency for Science, Technology and Innovation, Vladareanu Luige**
49. **Award from the Merida University, Venezuela for the paper: Transputerised Multi Microprocessor System for Real Time Control of Contour Path Robots, 2000, author Luige Vladareanu**
50. **Award from the Merida University, Venezuela for the paper: PLC Architectures in Distributed and Decentralized Structures - a new step towards top technology, 2000, author Luige Vladareanu, L.M. Velea**

Nominations:

1. **Nominated in Hubert Who is Who 2007, Encyclopedia of personalities from Romania, pg. 1226-1227, Verlag fur Personenzyklopadien AG, Schweiz, 2007-2010, ISBN 978-3-7290-0068-1**
2. **Nominated in “Who’s Who in Science and Engineering” edition 2006-2011**
3. **Nominated in “Man of the Year 2006” by Governing Board of Editors of the American Biographical Institute, 2006**
4. **Nominated in “ High Level Expert WG5 ROST 2007-2013”**
5. **Vladareanu Luige, National Expert of the Board of Scientific Research in Higher Education (CNCSIS); Evaluator of over 150 projects in the national program CNCSIS 2006, excellence program, PN II IDEI and PN II UMANE Resources, 2005-2008**
6. **Vladareanu Luige, National Expert of the Board of Scientific Research in Higher Education (CNMP), Program IV “Partnership in priority fields ”, 2007-**

Interuniversity / interacademic exchange

1. Inter-university exchange with the Shanghai Jiao Tong University, School of Mechanical Engineering, Prof. dr. ing. Feng Gao, August 2011, Participant IMS: L.Vladareanu, D. Bucur
2. Inter-academic exchange with the Science Academy from Moldova, October 2010; Participants IMS: V.G. Lascu, L.Vladareanu, T. Sireteanu;
3. Inter-academic exchange with the Science Academy of China, Shenyang Institute of Automation, State Key Laboratory of Robotics, Prof. Hongyi Li, 10-21 December 2009; Participants IMS: L.Vladareanu, D. Mitroi
4. Inter-university exchange with the Universidad Autonoma Metropolitana of Mexico City, Faculty of Basic Sciences, intre 20 - 27 April 2009, Prof. Armando Barranon, Head of Nanoeducation Seminar of UAM – Azcapotzalco. While participation we held a mini-course on the Applied Control Theory, with the title Real Time Control in Solid Mechanics
5. Inter-university exchange with the Staffordshire University, Faculty of Computing Engineering and Technology, UK, 1-7 September 2008,, Professor Hongnian Yu, coordinator of the scientific research group Mobile Computing and Distributed control Systems Research Group (<http://www.EPSRCHAM.org.uk/MCDS/>) and coordinator of the international project UK-Japan: Network on Human Adaptive Mechatronics (EPSRC www.EPSRCHAM.org.uk).
6. Inter-university exchange with the ARISTOTELES University Thessaloniky, Department of Mechanical Engineering, Grecia, , 29 Sept. - 5 Oct.2008, Prof. Sevasti Mitsi, Laboratory for Machine Tools and Manufacturing Engineering
7. Inter-academic exchange with the Institute of Robotic Systems and the Faculty of Science and Technology, University of Coimbra, Spain, 7-11 September 2008
8. Inter-university exchange with Sheffield University, Faculty of Computing Engineering and Technology, UK, Prof. Osman Tokhi.

Plenary Lecture:

1. Luige Vladareanu, Plenary Lecture, “Advanced Control Techniques using Virtual, Intelligent and Mobile Robots Research Environment”, 14th International Conference on Artificial Intelligence, Knowledge Engineering and Data Bases, AIKED '15, Tenerife, Canary Islands, Spain, January 10-12, 2015
2. Luige Vladareanu, Plenary Lecture, “Applications of Extenics in Robot Field ” Symposium for Application of Extension Innovation Method, Guangdong University of Technology, 2015.06.13 9:30-11:30
3. The 5th edition of the International Conference on Modeling and Optimization of the Aerospace, Robotics, Mechanical Engineering, Manufacturing Systems, Biomechanics, Neurorehabilitation and Human Motility fields, ICMERA 2014, 24-27 October 2014, Bucharest, Romania
4. Plenary Lecture, ATOM-N2014 Conference, The 7th edition of the International Conference "Advanced Topics in Optoelectronics, Microelectronics and Nanotechnologies"
5. Plenary Lecture, Proceedings of the 5th European Conference of Mechanical Engineering (ECME'14). Florence, Italy, 22-24 Nov. 2014
6. The 5th European Computing Conference (ECC '11), Paris, France, April 28-30, 2011
7. The 15th International Conference on Systems, Corfu Island, Greece, July 14-16, 2011

8. The American Conference on Applied Mathematics (AMERICAN-MATH '10, Harvard University, Cambridge, USA, January, 27-29, 2010
9. The 9th International Conference on Applications of Electrical Engineering (AEE '10), Supported by University Kebangsaan Malaysia, Penang, Malaysia, March 23-25, 2010
10. The 8th International Conference on Applications of Electrical Engineering (AEE '09), Houston, USA, April 30-May 2, 2009

Special Session

Session Organiser: Prof. Vladareanu, Chair sessions on “Advanced Intelligent Control in Robotics and Mechatronics”, Conference: “International Conference on Advanced Mechatronic Systems, ICAMechS 2015, Beijing, China, August 22-24, 2015

Program Chair: Prof. Vladareanu, “International Conference on Advanced Mechatronic Systems, ICAMechS 2015, Beijing, China, August 22-24, 2015
Session Organiser: Prof. Vladareanu, Chair Session on “Robotics and Mechatronics”, SISOM 2015 and Session of The Commission of Acoustics, Bucharest, 21-22 May

Conference Chair: Prof. Vladareanu, Chair SISOM 201, Annual Symposium of the Institute of Solid Mechanics SISOM 2015 and Symposium of Acoustics, Bucharest, 21-22 May, Scientific Sponsor Romanian Academy

Session Organiser: Prof. Vladareanu, Chair session on “Advanced Intelligent Control Methods in Robotics and Mechatronics”, Conference: ICCMIT'15 Conference Program, Prague, Czech Republic, 20-22 April 20

Session Organiser: Prof. Vladareanu, Chair session on “Applications of Extenics in Robot Field”, Symposium for Application of Extension Innovation Method, Guangdong University of Technology, Research Institute of Extenics and Innovation Method, Guangzhou, China, 2015.06.13

Special Session on [Advanced Intelligent Control Methods in Robotics and Mechatronics](#) organised by Prof. Luige Vladareanu (Romanian Academy, Institute of Solid Mechanics) and Prof. Hongnian Yu (Staffordshire University), 2013 International Conference on Advanced Mechatronic Systems, Henan University of Science and Technology, Luoyang, China, September 25-27

Session Organiser: Prof. Vladareanu, Chair Session on “Robotics and Mechatronics”, SISOM 2015 and Session of The Commission of Acoustics, Bucharest, 21-22 May

Special Session on [Advanced Intelligent Control Methods in Robotics and Mechatronics](#), is organised by Prof. Luige Vladareanu (Romanian Academy, Institute of Solid Mechanics, Romania) and Prof. Hongnian YU (Staffordshire University, UK), 2012 International Conference on Advanced Mechatronic Systems, September 18-21, 2012, Tokyo, Japan, Organizer: Luige Vladareanu, Co-Chair: Hongnian Yu

Special issue on Human Adaptive Mechatronics (HAM), Romanian Academy Journal on Applied Mechanics, former Revue Roumaine des Sciences Techniques, série de mécanique appliquée, volume 57, no 2, September-December 2012,
 (http://www.acad.ro/sectii2002/proceedings/proc_pag_eb.htm),

Member of the editorial boards of journals BDI

L.Vlădăreanu, Scientific Secretary and Editorial Board Member of *Revue Roumaine des Sciences Techniques – Série de Mécanique Appliquée*, ISSN 0035-4074.

L.Vlădăreanu, Editorial Board Member of *International Journal of Mathematical Combinatorics*, Edited by “The Madis of Chinese Academy of Sciences”, ISSN 1937-1055.

Invited Professor

- **Prof. Vladareanu, Invited Professor:** “Applying achievements of Extenics in the robot field” Guangdong University of Technology, Research Institute of Extenics and Innovation Method, Guangzhou, China
- **Prof. Vladareanu, Invited Professor:** “Versatile Intelligent Portable Robot Platform Applied on the Rescue Robots VIP RESCUBOT”, Yanshan University, Qinhuangdao, China
- **Prof. Vladareanu, Invited Professor:** ““Haptic Robot Control on Uneven Terrain and Uncertain Environment using VIPRO Platform”” Shanghai Jiao Tong University, (SJTU)
- **Prof. Vladareanu, Invited Professor:** “Haptic Robot Control for the rescue walking robots motion in the disaster areas”, Chinese Academy of Science, Institute Automation of the Chinese Academy of Science (CAS)
- **Invited Professor** at the Shanghai Jiao Tong University, School of Mechanical Engineering, with the lecture: **Walking Robots Dynamical Stability Control**, August 2011, 2013, 2016
- **Visiting Professor** at Jiliang University, Hangzhou, China, with the lecture: **Dynamical Stability Control Strategy for the RABOT Compliant Walking Robot**, January 2014
- **Invited Professor** at Shenyang Institute of Automation, Chinese Academy of Sciences, with the lecture “ **Real Time Control in Solid Mechanics**”, December 2010 and Institute Automation of the Chinese Academy of Science, Beijing 2013-2016, FP7 RABOT Project
- **Invited professor** at Universidad Autónoma Metropolitana-Azcapotzalco, Mexico City with the lecture (mini-course) **Applied Control Theory, April 2009**

International cooperation in 2016

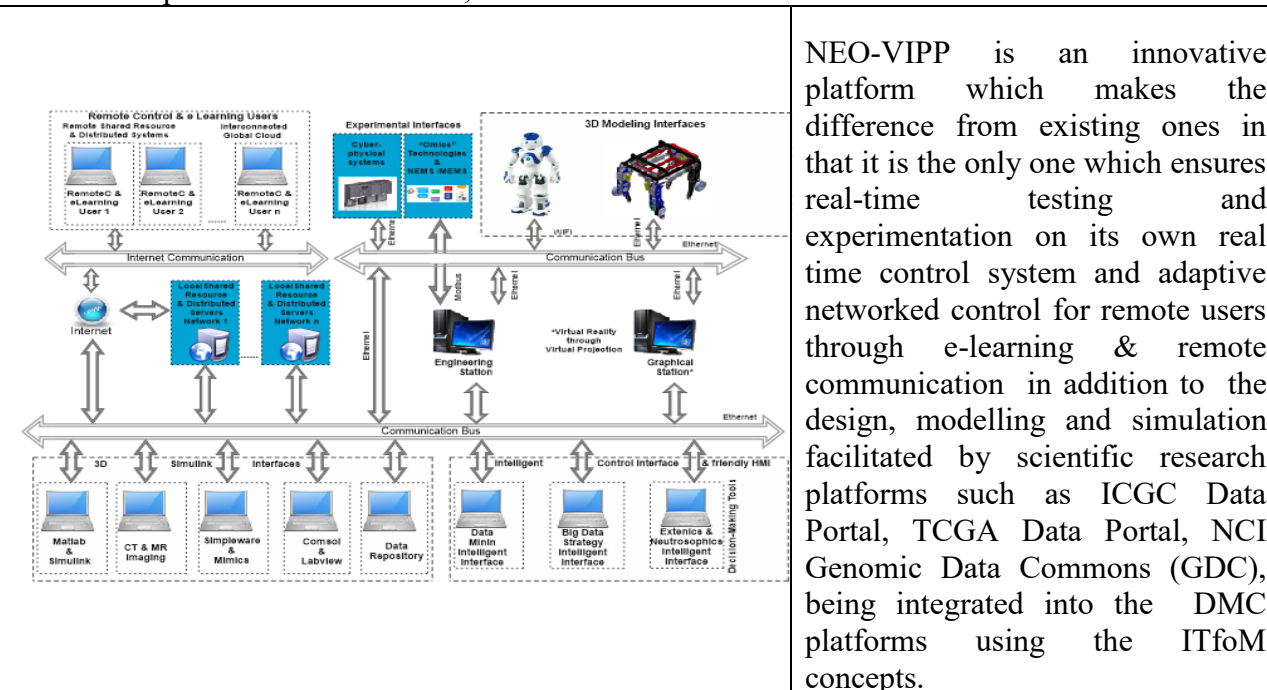
Participation in European Projects and International Collaborations

The results of the activities in the VIPRO project were integrated and developed in European projects / project proposals in the H2020 FLAG-ERA JTC 2016 project, NEO_VIPP project, Marie Curie Program - RISE, SMOOTH project, or international cooperation projects.

FLAG-ERA JTC 2016, NEO-VIPP, H2020

Project Title: “Versatile Intelligent Portable Platform for Modelling Complex Bio-Medical Data for Early Diagnosis of Neoplasia Progression and Management Towards Personalised

Medicine”, acronym NEO-VIPP, H2020 Project - **FLAG-ERA JTC 2016**, **partners: Romanian Academy**, Institute of Virology, Université Catholique de Louvain, Brussels, de Duve Institute (DDUV), FRS-FNRS, **Belgium**, Ege University, Department of Infectious Diseases and Clinical Microbiology, **Turkey**, Riga Technical University/ Department of Artificial Intelligence and Systems Engineering, **Latvia**, Tallinn University of Technology / T J Seebeck Department of Electronics, **Estonia**



The nucleus, extended first with **Romanian Academy/Institute of Solid Mechanics/** Department of Robotics and Mechatronics (RA-ISM) as a partner able to develop their existent VIPRO platform to the new extendable NEO-VIPP for integration, testing and experimenting clinical research on modelling complex bio-medical data for neoplasia early diagnosis of progression and management towards personalised medicine. Prof. Luige Vlădăreanu’s team will provide expertise in different fields of IT&C on advanced intelligent control , dynamic systems’ control, computational intelligence, multi-microprocessor systems along with Prof. R. I. Munteanu, Conf. M. Iliescu, Dr. A. Gal and Dr. O. Melinte, cyber-physical systems and adaptive networked, Conf. M. Moisescu, Conf. I. Sacală, Dr. V. Vlădăreanu and Dr. O. Melinte, was extended with experts in Information Science and Technology on advanced research work in the field of smart systems, Prof. T Sireteanu and cyber physical systems, Prof. Ioan Dumitrache

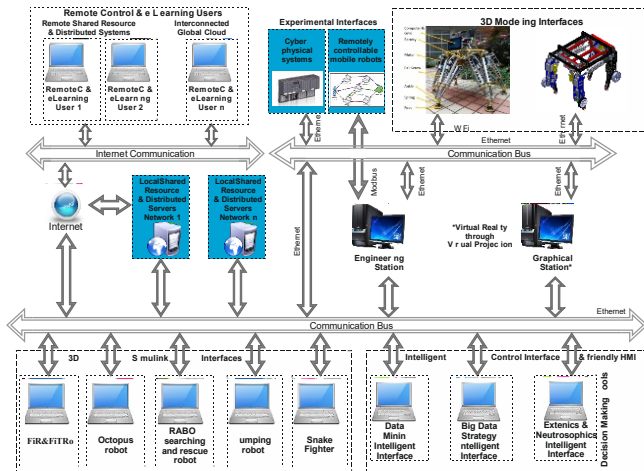
The VIPP architecture for humanoid and cooperative robots, based on the virtual projection method, patented by IMSAR [30], is extendable for integration, testing and experimenting clinical research on neoplasia progression through building an open architecture system and adaptive networks over the classic control system. The virtual platform to be developed and extended, NEO-VIPP, is the tool for transforming data in knowledge on oncogenesis and use it in personalized/precision medicine. The need to manage all behaviours and interactions is solved by developing a new interface for intelligent control based on advanced control strategies, such as extended control (Extensics), neutrosophic control, human adaptive mechatronics, implemented by high speed processing IT&C techniques in real time communication for a high amount of data processing, including a remote control & e-learning component and an adaptive networked control.

H2020, SMOOTH Project,

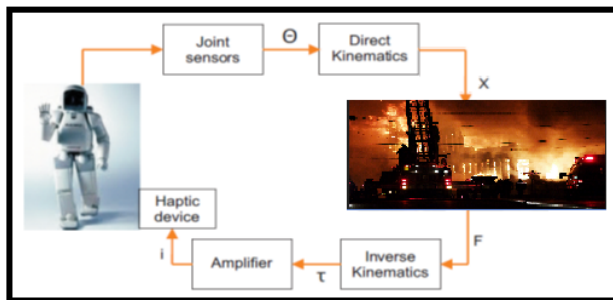
Grant Agreement number: 734875 — SMOOTH — H2020-MSCA-RISE-2016

Call: H2020-MSCA-RISE-2016, Research and Innovation Staff Exchange (RISE), Marie Skłodowska-Curie Actions.

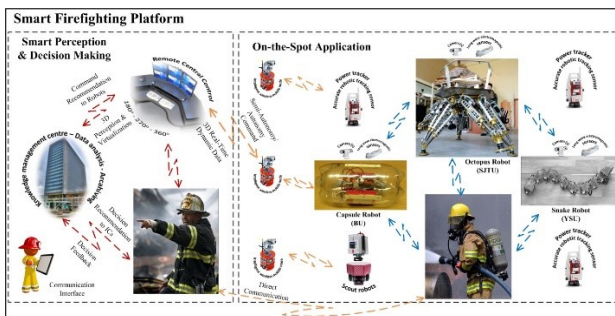
Project „Smart Robots for Fire-Fighting”, acronym **SMOOTH**, CO-Bournemouth University UK , Partners: **Institute of Solid Mechanics RO**, Shanghai Jiao Tong University CN, Institute of Automation Chinese Academy of Sciences CN, Yanshan University CN, Robotnik Automation Sll ES , S.C. Stimpex S.A. RO, Cedrat Technologies SA FR, H2020-MSCA-RISE-2016, Total Cost **909,000 EURs**.



The SMOOTH project will go beyond the current state-of-art in a number of ways. It is clear that development of a unique and universal robot that can operate under harsh firefighting environments with wide and dexterous tasks to meet the aforementioned needs is not a simple task. *The innovative platform VIP- FiTRo*, developed as open architecture system and adaptive networks integrates Future Internet Systems vision enabling: cyber-physical systems by adaptive networks, intelligent network control systems, human in the loop principles, data mining, big data, intelligent control interfaces, network quality of service, shared resources and distributed server network - remote control and e-learning users by interconnected global clouds.



For moving of the *firefighting robots* in uncertain environments, allowing actuation in crisis situations or natural disaster, in which human life is in danger, SMOOTH will *develop haptic interfaces* that provides the robot spatial orientation and navigation based on that the robot feels the land on which it moves by changing the stiffness of the robot paw joints and of the segments robot joints, using the stiffness associated of the paw joints position X_c on the robot environment map if uneven ground is detected.



The main *innovations of SMOOTH* are the development and evaluation of a cognitive firefighting robots swarm and 3D human-robot interfaces. Data mining and predictive capabilities will allow vital patterns of behaviours to be evaluated at the robots as well as the firefighting team (ICs and firefighters). Data mining of the on-the-spot firefighting information across EU and China will gather the “wisdom of the crowd” to produce a predictive platform of smart actions in firefighting operations and services.

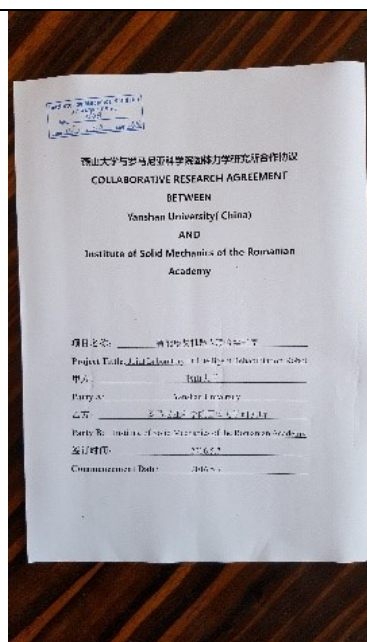
FP7, RABOT Project

FP7-PEOPLE-2012-IRSES-no.318902 “Real-time adaptive networked control of rescue robots” (RABOT), 2012-2016, coordinator: Bournemouth University, UK, UK, main partners: Institute of Solid Mechanics of Romania Academy; Staffordshire University, Shanghai Jiao Tong University, CN, Institute of Automation Chinese Academy of Sciences, CN, Yanshan University.



Colaboration with Institute of Automation, Chinese Academy of Science, Beijing, China, project RABOT, FFP7-PEOPLE-2012-IRSES-no.318902.

Presentation of the VIPRO platform to the specialists, teachers and students of CASIA- Institute of Automation, Chinese Academy of Science



**Scientific collaboration agreement
IMSAR – Yanshan University**



**Presentation of
rehabilitation robots**



**Meeting on the signing of the
collaboration agreement
IMSAR – Yanshan University**

We have met with remarkable interest from the audience – researchers, university professors and businessmen, for the possibility of academic collaboration in the development of the VIPRO platform and the to-market transfer, after the project implementation period.

WORKSHOP – project VIPRO Platform; project code: PN-II-PT-PCCA-2013-4-2009, Contract UEFISCDI 009/2014, Date: 09 august, 2016.

The meeting was organized at the project partner CORNER SRL, which has contributed with the necessary infrastructure for presentation, logistics and financing the workshop. The meeting was attended by Prof. Florentin Smarandache, University of New Mexico, USA, founder of neutrosophic logic, member in the IMSAR team, interested in collaborating and promoting the VIPRO Platform on the website of the University of Albuquerque and in the academic environment in the USA, General Director, Dr. Eng. Teodor Necşoiu, Optoelectronica 2010, potential beneficiary, members of the research teams from CORNER, UPB and the project coordinator.


Demonstrations for specialists and potential beneficiaries.

Salon International for Inventions in Geneva-SWITZERLAND (13-17 Aprilie 2016)

Participation at the Salon International for Inventions in Geneva-SWITZERLAND with the invention „**Method and device for the development of control interfaces for mechatronic systems in virtual environments**”, RO A2016/00174 din 10.03.2016, authors: *Luige Vlădăreanu, Radu I. Munteanu, Tudor Sireteanu, Eugen Albu, Victor Vlădăreanu, Radu A. Munteanu, Boris S. Cononovici, Mihaiela Iliescu, Octavian Melinte, Ionel A. Gal, Daniel M. Mitroi, Oana Chenaru.*

The invention, authored by IMSAR, was accomplished in the project PN-II-PT-PCCA-2013-4, ID2009, VIPRO, no. 009 / 2014-2017, with the majority of the authors being members in the research team.

The invention, as a result of the project, was presented to the Exposition jury, formed of renowned specialists in the fields of research and innovation. The Gold Medal was awarded after evaluation by a group of 12 specialists out of the 47 specialists in the Exposition jury.



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UNIVERSITATEA TEHNICĂ DIN CLUJ-RAPOARĂ
TECHNICAL UNIVERSITY OF CLUJ-RAPOARĂ

METHOD AND DEVICE FOR THE DEVELOPMENT IN VIRTUAL REALITY OF INTERFACES FOR MECHATRONIC SYSTEMS' CONTROL

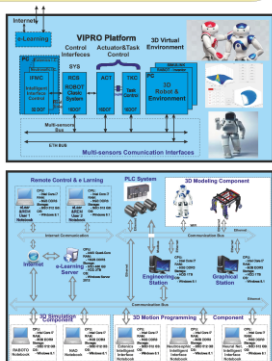
Authors: **Luige VLADAREANU, Radu I. MUNTEANU, Tudor SIRETEANU, Eugen ALBU, Victor VLADAREANU, Radu A. MUNTEANU, Boris S. CONONOVICI, Mihaiela ILIESCU, Octavian MELINTE, Ionel A. GAL, Daniel M. MITROI, Oana CHENARU and Madalin MIHAILOVICI**

PATENT: OSIM A2016/00174

The system is designed for motion and navigation on rough terrain and uncertain environments. The problem solved by the invention is to adjust the robot movement on rough and unstructured terrain, allowing rescue activities in crisis situations or natural disasters areas in which human life is in danger.

The invention refers to a complex method and device for the development in a virtual environment of versatile, intelligent and portable control interfaces, validated in real time on a classical own mechatronic control system and/or a physical mechatronic system, with the aim of improving performance for motion, navigation and robot orientation on the control axes, with applications in control systems for nano - micro - macro -manipulators, mechatronic systems and humanoid robots.

The method enables the design, testing and experimentation of new intelligent control interfaces on a classical mechatronic control system (SCMC) in the presence of the physical mechatronic system (SMF), with own control system and mechanics structure, or in the absence thereof, without the need to modify its hardware structure, and, from optimal decisions and information fusion between the intelligent control interfaces, resulting in a high degree of versatility and portability to a global communications network. The portability of the intelligent control interface to a global communication network raises the economic impact and develops control performance for mechatronic systems through the worldwide participation of researchers and specialists from institutes, universities and research centres. The portability characteristics of the device developed with the invention allows the user, from anywhere in the world, to test and improve the motion performance of the mechatronic system, and furthermore implement the intelligent control and decision interfaces on their own control system.



ADVANTAGES

Together with the ability to function in a global communication network, the device is competitive with other well-known virtual platforms, such as CAD, CAM, CAE, LabView, Matlab, Simulink, Webots, USARSIM, Unity 3D, V-REP, and commercially feasible, allowing the designed device to enter the IT market as a new component among existing IT platforms.

APPLICATIONS

The proposed patent is based on numerous interdisciplinary studies with contributions in the fundamental research having technology capabilities in various fields: nuclear industry for the transportation of nuclear materials, medical assistance for the handicapped, agriculture and forest care, inspections in hazardous areas, nano-micro technologies, etc.

Acknowledgements: PN-II-PT-PCCA-2013-4, ID2009, VIPRO, no. 009 / 2014-2017

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Salon International for Inventions in Geneva-SWITZERLAND with invention „Method and device for the development of control interfaces for mechatronic systems in virtual environments”, RO A2016/00174 din 10.03.2016, authors: Luige Vlădăreanu, Radu I. Munteanu, Tudor Sireteanu, Eugen Albu, Victor Vlădăreanu, Radu A. Munteanu, Boris S. Cononovici, Mihaiela Iliescu, Octavian Melinte, Ionel A. Gal, Daniel M. Mitroi, Oana Chenaru.

Indian Institute of Technology Delhi and Asia Pacific Institute of Information Technology

At the invitation of Prof. Shashi MATHUR, Dean and Professor in the Department of Civil Engineering, Indian Institute of Technology Delhi, and of Prof. Ramesh Kumar CHOUDHARY, President and Director APIIT SD India (International Engineering College), a working visit was made with the aim of dissemination information on the functionality and utility of the experimental model and of the results of research and design undertaken within the VIPRO project.

At the ***“Indian Institute of Technology Delhi”***, India (IITD), there were held meetings with representatives of the institute management, as well as directors of the engineering departments:

- Shashi Mathur – Dean, Alumni Affairs @ International Programmes, Professor, Department of Civil Engineering;
- Ranjan Bose – Professor, Head of Department of Electrical Engineering;
- Subir Kumar Saha – Professor, Head of Department of Mechanical Engineering.

The discussions broaches the themes of the VIPRO project, current activities and associated deliverables, as well as risk-generating situations for accomplishing the objectives undertaken in the project. The functionality was demonstrated for Remote Control, E-learning and e-Courses in the VIPRO platform. The resulting discussions and demonstrations contributed to the development of the experimental model.

Discussions included the opportunities for using the final results obtained in the project, especially through continually developing research through international projects within the HORIZON 2020 program.

A future collaboration between IMSAR and IITD, especially through academic exchange and co-tutelage of doctoral theses, was discussed. A proposal was received for a “Memorandum of Understanding for Academic Cooperation”.

Indian Institute of Technology Delhi

“Asia Pacific Institute of Information Technology”, Panipat, India (APIIT), meeting with institute director Prof. Ramesh Kumar Choudhary and representative from the departments of electro-mechanical engineering, management and applied mechanics. The visit was aimed at discussions of the VIPRO project and demonstrations for specialists and potential beneficiaries of the VIPRO platform. The functionalities for Remote Control, E-learning and e-Courses were demonstrated for the VIPRO platform.

Discussions were held referring to the research undertaken in the VIPRO project and the problems met when designing and developing the components for the prototype stand and platform, using the obtained results as background for further development and finding future funding opportunities. Prof. Luige Vlădăreanu presented the course “Real time control in solid mechanics applied on the VIPRO Platform”, and Prof. Mihaiela Iliescu held the course “Applications of the VIPRO Multi-Axes Mechatronic Systems”.

Inventions developed and registered in Stage 3 of the VIPRO Project:

1. „Method and device for the development of control interfaces for mechatronic systems in virtual environments”, RO A2016/00174 din 10.03.2016, authors: *Luige Vlădăreanu, Radu I. Munteanu, Tudor Sireteanu, Eugen Albu, Victor Vlădăreanu, Radu A. Munteanu, Boris S., Cononovici, Mihaiela Iliescu, Octavian Melinte, Ionel A. Gal, Daniel M. Mitroi, Oana Chenaru.*

2. “Method and device for hybrid force-position control applied in intelligent control platforms”, RO A/00821 din 14.11.2016, Authors: *L. Vlădăreanu, R.I. Munteanu, T. Sireteanu*

(MC AR). I. Dumitrache (MC AR), M. Iliescu, S. Cononovici, V. Vlădăreanu, RA Munteanu, O. Melinte, A. Gal, V. Barbu, MS Munteanu, D. Mitroi, M. Moisescu, O. Chenaru, I. Mihai, I. Sacală, Gh. Florea. All authors, except Mr RI Munteanu and Mr Sireteanu, are members in the PNII VIPRO project.

Papers published in international databases.

1. Vlădăreanu Victor, Sandru Ovidiu Ilie, Moisescu Mihnea, Smarandache Florentin, Yu Hongnian, „*The Extenics norm applied to a two-dimensional robotic workspace*”, Acta Electrotehnica, 2016.
2. Vlădăreanu Luige, Mitroi Daniel, Munteanu Radu I., Chang Shuang, Yu Hongnian, Wang Hongbo, Vlădăreanu Victor, Munteanu Radu A., Hou Zhengzhuang, Melinte Daniel Octavian, Wang Xiaoping, Bia G., Feng Yongfei, Albu Eugen, “*Improved performance of haptic robot through the VIPRO Platform*”, Acta Electrotehnica, 2016.
3. Iliescu Mihaela, Mitroi Daniel, Vlădăreanu Luige, Spirleanu Cristian, “*Optimization of drilling and grinding processes by distributed control systems based on the virtual projection method*”, Acta Electrotehnica, 2016.
4. Gal Ionel Alexandru, Vlădăreanu Luige, Ciupitu Liviu, Munteanu Mihai Stelian, Barbu Valentin, Florea Gheorghe, “*Comparative analysis of tools for NAO robot dynamics simulation within the VIPRO platform*”, ”, Acta Electrotehnica, 2016.
5. Melinte Daniel Octavian, Vlădăreanu Luige, Munteanu Radu A., Wang Hongbo, Smarandache Florentin, “*NAO robot in virtual environment applied on VIPRO Platform*”, Acta Electrotehnica, 2016.
6. Liu Pengcheng, Yu Hongnian, Cang Shuang, Vlădăreanu Luige, Wang Hongbo, Smarandache Florentin, “*Robot-assisted smart firefighting and interdisciplinary perspectives. In Automation and Computing*”, Proceedings of the 22nd International Conference on Automation & Computing, 2016
7. Luige Vlădăreanu, Mihaela Iliescu, Marcel Migdalovici, Eugen Albu, Hongbo Wang, Yongfei Feng, Jianye Niu, Daniel Mitroi, “*Functional and experimental model architecture on the VIPRO platform for 3D simulation of the mobile robots*”, Proceedings SISOM 2016
8. Marcel Migdalovici¹, Luige Vlădăreanu¹, Daniela Baran², Gabriela Vlădeanu¹, “*On Critical Position of Walking Robots Evolution and Applications*”, ¹IMSAR, ²INCAS “Elie Carafoli”, Bucharest, Proceedings SISOM 2016
9. Jianye Niu¹, Hongbo Wang¹, Hongmin Shi¹, Luige Vladareanu², Yuxiang Zhang¹, Dong Li¹, “*Mechanism Design and Parameter Optimization of Wheel-legged Rescue Robo*”, Proceedings SISOM 2016
10. Mihaela Iliescu¹, Luige Vladareanu¹, Ioana Pintilie², Marian Lazar³, Daniel Mitroi¹, Mihai Radulescu¹, “*Multi-Axes Mechatronics Systems for Printing Ultrathin Layers of Perovskite Solar Cells*”, Proceedings SISOM 2016
11. Alexandru Gal¹, Luige Vladareanu¹, Oana Chenaru², Gelu Florea², Catalin-Eugen Simion², “*3D modeling of mobile robots in virtual reality environment using Blender and Unity applications integrated on VIPRO Platform*”, Proceedings SISOM 2016.

12. Octavian Melinte¹, Luige Vladareanu¹, Mihai Ionel², Valentin Barbu¹, “*NAO Humanoid Robots Using Virtual Reality Platforms Choreographe and Webots Applied on VIPRO Platform*”, Proceedings SISOM 2016.
13. Daniel Mitroi¹, Luige Vladareanu¹, Radu I. Munteanu², Hongbo Wang³, Yongfei Feng³, Eugen Albu¹, “*The UAVs autonomous navigation interfaces using distributed particle filters for sensor networks*”, Proceedings SISOM 2016.
14. Eugen Albu¹, Luige Vladareanu¹, Radu A. Munteanu², Hongbo Wang³, Jianye Niu³, Doina Marin¹, “*The communication strategy on the capabilities and opportunities of the versatile , intelligent and portable robot platform VIPRO*”, Proceedings SISOM 2016.

The innovative VIPRO platform, thusly designed, is conceptually competitive with other similar virtual application platforms in bundles such as CDA, CAM, CAE, Solid Works, Matlab / Simulink, COMSOL, LabView, etc. but additionally allows the design, testing and experimentation of intelligent real time control methods integrated into the classical control system, in modelling and simulating the robot. To this point, our long-term goal is to develop a seed project which will allows the integration of the VIPRO platform on the IT market as a new component among the existing platforms.

15.03.2020

Luige Vladareanu