

HORIZON
2020

HIGH SPECIFIC ENERGY ALUMINIUM-ION RECHARGEABLE DECENTRALIZED ELECTRICITY GENERATION SOURCES

Results

Project Information

ALION

Grant agreement ID: 646286

[Project website](#) 

DOI

[10.3030/646286](https://doi.org/10.3030/646286) 

Project closed

EC signature date

13 May 2015

Start date

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End date

31 May 2019

Funded under

INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Advanced materials

Total cost

€ 7 223 551,25

EU contribution

€ 7 223 551,25

Coordinated by

ACONDICIONAMIENTO
TARRASENSE ASSOCIACION



Spain

CORDIS provides links to public deliverables and publications of HORIZON projects.

Links to deliverables and publications from FP7 projects, as well as links to some specific result types such as dataset and software, are dynamically retrieved from [OpenAIRE](#) .

Publications

Conference proceedings (4)



[Micro patterned test cell arrays for high-throughput battery materials research](#)

Author(s): Robert Hahn, Marc Ferch, Katrin Hoeppe, Marco Queisser, Krystan Marquardt, Giuseppe Antonio Elia

Published in: 2017 Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), Issue 20/07/2017, 2017, Page(s) 1-6, ISBN 978-1-5386-2952-9

Publisher: IEEE

DOI: 10.1109/DTIP.2017.7984484

[Development of micro batteries based on micro fluidic MEMS packaging](#)

Author(s): Robert Hahn, Marc Ferch, Katrin Hoeppe, Marco Queisser, Krystan Marquardt, Giuseppe Antonio Elia

Published in: 2017 Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), Issue 20/07/2017, 2017, Page(s) 1-5, ISBN 978-1-5386-2952-9

Publisher: IEEE

DOI: 10.1109/DTIP.2017.7984497

Development of an Aluminum Ion Battery

Author(s): Willi Peters

Published in: "Electrochemistry" conference, Issue Once a year, 2016

Publisher: n/a

Novel Electrode Material for Aluminum Batteries

Author(s): Giuseppe Antonio Elia

Published in: IMLB 2016, Issue Once a year, 2016

Publisher: n/a

Peer reviewed articles (13)



[Polyacrylonitrile Separator for High-Performance Aluminum Batteries with Improved Interface Stability](#)



Author(s): Giuseppe Antonio Elia, Jean-Baptiste Ducros, Dane Sotta, Virginie Delhorbe, Agnès Brun, Krystan Marquardt, Robert Hahn

Published in: ACS Applied Materials & Interfaces, Issue 9/44, 2017, Page(s) 38381-38389, ISSN 1944-8244

Publisher: American Chemical Society

DOI: 10.1021/acsami.7b09378

[Nanotechnology for environmentally sustainable electromobility](#)

Author(s): Linda Ager-Wick Ellingsen, Christine Roxanne Hung, Guillaume Majeau-Bettez, Bhawna Singh, Zhongwei Chen, M. Stanley Whittingham, Anders Hammer Strømman

Published in: Nature Nanotechnology, Issue 11/12, 2016, Page(s) 1039-1051, ISSN 1748-3387

Publisher: Nature Publishing Group

DOI: 10.1038/nnano.2016.237

[An Overview and Future Perspectives of Aluminum Batteries](#)

Author(s): Giuseppe Antonio Elia, Krystan Marquardt, Katrin Hoeppe, Sebastien Fantini, Rongying Lin, Etienne Knipping, Willi Peters, Jean-Francois Drillet, Stefano Passerini, Robert Hahn

Published in: Advanced Materials, Issue 28/35, 2016, Page(s) 7564-7579, ISSN 0935-9648

Publisher: United Nations Industrial Development Organization

DOI: 10.1002/adma.201601357

[An Aluminum/Graphite Battery with Ultra-High Rate Capability](#)

Author(s): Giuseppe A. Elia, Neil A. Kyremateng, Krystan Marquardt, Robert Hahn

Published in: Batteries & Supercaps, 2018, ISSN 2566-6223

Publisher: Wiley-VCH Verlag GmbH & Co. KGaA,

DOI: 10.1002/batt.201800114

[Insights into the reversibility of aluminum graphite batteries](#)

Author(s): Giuseppe Antonio Elia, Ivana Hasa, Giorgia Greco, Thomas Diemant, Krystan Marquardt, Katrin Hoeppe, R. Jürgen Behm, Armin Hoell, Stefano Passerini, Robert Hahn

Published in: Journal of Materials Chemistry A, Issue 5/20, 2017, Page(s) 9682-9690, ISSN 2050-7488

Publisher: Royal Society of Chemistry

DOI: 10.1039/c7ta01018d

[Influence of the electrode nano/microstructure on the electrochemical properties of graphite in aluminum batteries](#)

Author(s): Giorgia Greco, Dragomir Tatchev, Armin Hoell, Michael Krumrey, Simone Raoux, Robert Hahn, Giuseppe Antonio Elia

Published in: Journal of Materials Chemistry A, Issue 6/45, 2018, Page(s) 22673-22680, ISSN 2050-7488

Publisher: Royal Society of Chemistry

DOI: 10.1039/c8ta08319c

[High-throughput battery materials testing based on test cell arrays and dispense/jet printed electrodes](#)



Author(s): Robert Hahn, Marc Ferch, Kevin Tribowski, Neil Amponsah Kyeremateng, Katrin Hoeppner, Krystan Marquardt, Klaus-Dieter Lang, Wolfgang Bock

Published in: Microsystem Technologies, Issue 25/4, 2019, Page(s) 1137-1149, ISSN 0946-7076

Publisher: Springer Verlag

DOI: 10.1007/s00542-019-04368-5

[Fast Microwave-Assisted Hydrothermal Synthesis of Pure Layered \$\delta\$ -MnO₂ for Multivalent Ion Intercalation](#)

Author(s): Martin Eckert, Willi Peters, Jean-Francois Drillet

Published in: Materials, Issue 11/12, 2018, Page(s) 2399, ISSN 1996-1944

Publisher: MDPI Open Access Publishing

DOI: 10.3390/ma11122399

[Environmental Screening of Electrode Materials for a Rechargeable Aluminum Battery with an AlCl₃/EMIMCl Electrolyte](#)

Author(s): Linda Ellingsen, Alex Holland, Jean-Francois Drillet, Willi Peters, Martin Eckert, Carlos Concepcion, Oscar Ruiz, Jean-François Colin, Etienne Knipping, Qiaoyan Pan, Richard Wills, Guillaume Majeau-Bettez

Published in: Materials, Issue 11/6, 2018, Page(s) 936, ISSN 1996-1944

Publisher: MDPI Open Access Publishing

DOI: 10.3390/ma11060936

[Comparison of carbon materials as cathodes for the aluminium-ion battery](#)

Author(s): R.D. Mckerracher, A. Holland, A. Cruden, R.G.A. Wills

Published in: Carbon, Issue 144, 2019, Page(s) 333-341, ISSN 0008-6223

Publisher: Pergamon Press Ltd.

DOI: 10.1016/j.carbon.2018.12.021

[An aluminium battery operating with an aqueous electrolyte](#)

Author(s): A. Holland, R. D. Mckerracher, A. Cruden, R. G. A. Wills

Published in: Journal of Applied Electrochemistry, Issue 48/3, 2018, Page(s) 243-250, ISSN 0021-891X

Publisher: Kluwer Academic Publishers

DOI: 10.1007/s10800-018-1154-x

[Electrochemically Treated TiO₂ for Enhanced Performance in Aqueous Al-Ion Batteries](#)

Author(s): Alexander Holland, Rachel McKerracher, Andrew Cruden, Richard Wills

Published in: Materials, Issue 11/11, 2018, Page(s) 2090, ISSN 1996-1944

Publisher: MDPI Open Access Publishing

DOI: 10.3390/ma11112090

[TiO2 nanopowder as a high rate, long cycle life electrode in aqueous aluminium electrolyte](#) 

Author(s): A.W. Holland, R. McKerracher, A. Cruden, R.G.A. Wills

Published in: Materials Today Energy, Issue 10, 2018, Page(s) 208-213, ISSN 2468-6069

Publisher: Elsevier

DOI: 10.1016/j.mtener.2018.09.009

Other (1)

[Battery materials high throughput testing](#) 

Author(s): Hahn, Robert

Published in: 2017

Publisher: -

DOI: 10.13140/rg.2.2.33873.43366

Datasets

Datasets via OpenAIRE (1)



[Data for: TiO2 nanopowder as a high rate, long cycle life electrode in aqueous aluminium electrolyte](#) 

Author(s): Wills, Richard

Published in: Mendeley

Last update: 4 May 2023

Permalink: <https://cordis.europa.eu/project/id/646286/results>

European Union, 2025

