Corentin Dupont

Technical director & Researcher, IoT & Cloud Computing

Education

2016 **PhD**, *University of Trento*, Trento, Italy.
Thesis "Energy adaptive infrastructure for sustainable cloud data centres"

2003 **MsD**, *Institut Supérieur de l'Electronique et du Numérique*, Toulon, France.
Specialisation on Real Time computing

Experience

Research experience

2018–present **Technical director**, *Innotec 21 & Waziup e.V.*, Dresden, Germany.
Technical director of WaziHub IoT project.
- Team management,
- Implementation of Cloud & IoT platform: http://www.waziup.io.
- Funding & grant proposal writing

2016–2018 **Project technical director**, *Fondazione Bruno Kessler - Create-Net*, Trento, Italy.
Technical director of Waziup and WaziHub IoT projects.
- Team management,
- Cloud and IoT research,
- Implementation of Cloud platform.

2010–2015 **Work Package responsible & researcher**, *Create-Net*, Trento.
Work Package leader for projects FIT4Green DC4Cities. Research and design the algorithms and policies for energy-aware optimization of data centre operations.
- Leader of a team of 4 persons,
- Algorithmic research, specification and design,
- Implementation of FIT4Green & DC4Cities prototypes.

2010–present **Research funding**, *Create-Net*, Trento.
Grants won: DC4Cities and WaziHub EU project (WP leader, technical director)
Participated in many project proposals as Coordinator or WP leader.

2011–2012 **Researcher**, *Create-Net*, Trento.
Research in the area of Internet of Things. Leader of the iCore platform.
- Research on DSLs to address the diversity of real-world objects,
- Implementation of the iCore platform prototype,
- Coordination of the implementation of the platform.

Industrial experience

2003–2008	**Project Leader**, *DCNS/EADS*, Aix en Provence, France.

Projects for the Norway frigates SKJOLD and the Franco-Italian frigates HORIZON
- Technical leader and project leader (CMMi 3), team of 4 persons
- Specification, Conception and development of 5 simulators (calculator in Ada and GUI in C++/Qt) : Fire Control Tracker, Decoy Launcher System, Torpedo Launch System, Air Transceiver, Principal Anti-Air Missile System.
- Evolution of NeVis, a 3D demonstrator for urban warfare (EADS).

C++, Ada, Qt, Linux, CMMi tools, OWB, Doors, Vega Prime, Delta 3D

2009–2010	**Software Leader**, *PSA Peugeot-Citroën*, Paris, France.

Supplier's management for the automatic gearbox AL4/AT8 for PSA Peugeot Citroën
- Specification writing
- Management of the supplier (evolutions, technical issues, project management).

MS-Project, project management tools, SQL.

Languages

English	Fluent	647/700 TOEFL, 980/990 TOEIC, work & everyday language
Italian	Fluent	living in Italy since 2010
French	Native	

Computer skills

Languages:	Haskell, Javascript, NodeJS, ReactJS, Java, C/C++, R, HTML5, CSS3, Python	*Cloud computing:*	OpenStack, Docker, Kubernetes, Cloud Foundry, Amazon AWS...
IoT & big data:	Arduino, Raspberry PI, Hadoop, Elastic Search, Constraint programming, databases...	*Architecture:*	REST APIs, Micro services, UML...

Publications

Active from 2012.

- Sonja Klingert, Florian Niedermeier, Corentin Dupont, Giovanni Giuliani, Thomas Schulze, and Hermann de Meer. Renewable energy-aware data centre operations for smart cities - the DC4Cities approach. In *SMARTGREENS 2015*. ACM, 2015
- Corentin Dupont, Fabien Hermenier, Thomas Schulze, Robert Basmadjian, Andrey Somov, and Giovanni Giuliani. Plug4green: A flexible energy-aware vm manager to fit data centre particularities. *Ad Hoc Networks*, pages 505–519, 2014
- Corentin Dupont, Thomas Schulze, Giovanni Giuliani, Andrey Somov, and Fabien Hermenier. An energy aware framework for virtual machine placement in cloud federated data centres. In *Proceedings of the 3rd International Conference on Future Energy Systems: Where Energy, Computing and Communication Meet*, e-Energy '12, pages 4:1–4:10. ACM, 2012
- Dang Minh Quan, Robert Basmadjian, Hermann de Meer, Ricardo Lent, Toktam Mahmoodi, Domenico Sannelli, Federico Mezza, Luigi Telesca, and Corenten Dupont. Energy efficient resource allocation strategy for cloud data centres. In Erol Gelenbe, Ricardo Lent, and Georgia Sakellari, editors, *Computer and Information Sciences II*, pages 133–141. Springer London, 2012
- Somov Andrey, Dupont Corentin, and Raffaele Giaffreda. Supporting smart-city mobility with cognitive internet of things. In *Future Network and Mobile Summit*, pages 1–10, Lisbon, Portugal, 2013. IEEE, IEEE
- Dang Minh Quan, Andrey Somov, and Corentin Dupont. Energy usage and carbon emission optimization mechanism for federated data centers. In *Proceedings of the First International Conference on Energy Efficient Data Centers*, E2DC'12, pages 129–140, 2012

- Corentin Dupont. Renewable energy aware data centres: The problem of controlling the applications workload. In Sonja Klingert, Xavier Hesselbach-Serra, MariaPerez Ortega, and Giovanni Giuliani, editors, *Energy-Efficient Data Centers*, volume 8343 of *Lecture Notes in Computer Science*, pages 16–24. Springer Berlin Heidelberg, 2013
- Corentin Dupont. Building application profiles to allow a better usage of the renewable energies in data centres. In *Energy-Efficient Data Centers*, Lecture Notes in Computer Science, 2014
- Corentin Dupont. Energy aware infrastructure for green cloud data centres. University of Trento Doctoral School, 2014
- Corentin Dupont and Fabien Hermenier. DC4Cities: Better usage of the renewable energies in data centres. In *ICT4S 2015*, 2015
- Corentin Dupont, Mehdi Sheikhalishahi, Federico M. Facca, and Fabien Hermenier. An energy aware application controller for optimizing renewable energy consumption in cloud computing data centres. In *8th IEEE/ACM International Conference on Utility and Cloud Computing*, 2015
- Corentin Dupont, Mehdi Sheikhalishahi, Federico M. Facca, and Silvio Cretti. Energy efficient data centres within smart cities: Iaas and paas optimizations. In *2015 EAI International Conference on Smart Grids for Smart Cities*, Toronto, Canada, 2015
- Abdur Rahim, Corentin Dupont, and Congduc Pham. Iot, cloud and big data integration for iot analytics. In *Building Blocks for IoT Analytics*. River Publisher, 2016
- Abdur Rahim Biswas, Corentin Dupont, and Congduc Pham. Waziup: Open innovation platform for iot-big data in sub-sahara africa. In *IERC FIRE book*. IERC, 2016
- Charlotte Dupont, Sabrine Fatnassi, and Corentin Dupont. Waziup: An internet of things and big data platform to boost innovation in rural africa. In *European Project Space*. SCITEPRESS, 2016
- Daniele Pizzolli, Giuseppe Cossu, Daniele Santoro, Luca Capra, Charalampos Doukas, Corentin Dupont, Francesco De Pellegrini, Fabio Antonelli, and Silvio Cretti. Cloud4iot: a heterogeneous, distributed and autonomic cloud platform for the iot. In *IEEE CloudCom conference proceedings*, 2016
- Corentin Dupont. *Energy Adaptive Infrastructure for Sustainable Cloud Data Centres*. PhD thesis, University of Trento, 2016
- Abdur Rahim, Corentin Dupont, and Congduc Pham. Iot, cloud and big data integration for iot analytics. In *Building Blocks for IoT Analytics*. River Publisher, 2016
- Abdur Rahim Biswas, Corentin Dupont, and Congduc Pham. Waziup: Open innovation platform for iot-big data in sub-sahara africa. In *IERC FIRE book*. IERC, 2016
- Charlotte Dupont, Sabrine Fatnassi, and Corentin Dupont. Waziup: An internet of things and big data platform to boost innovation in rural africa. In *European Project Space*. SCITEPRESS, 2016
- Corentin Dupont, Tomas Bures, Mehdi Sheikhalishahi, Congduc Pham, and Abdur Rahim. Low-cost iot, big data, and cloud platform for developing countries. pages 285–299, Cham, 2017. Springer International Publishing
- Corentin Dupont, Raffaele Giaffreda, and Luca Capra. Edge computing in iot context: horizontal and vertical linux container migration. In *Proceedings of Global IoT Summit, Geneva, Switzerland*, 2017
- Corentin Dupont, Mehdi Sheikhalishahi, Abdur Rahim, and Tomas Bures. Iot and big data for africa: the waziup platform and use cases. In *IST-Africa 2017 Conference Proceedings, Paul Cunningham and Miriam Cunningham (Eds), IIMC International Information Management Corporation*, pages 243–, 2017
- Corentin Dupont, Massimo Vecchio, Congduc Pham, Babacar Diop, Charlotte Dupont, and Sename Koffi. An open iot platform to promote eco-sustainable innovation in western africa: real urban and rural testbeds. *Wireless Communications and Mobile Computing*, 2018

Reviewer for Journal of Grid Computing, E-Energy, FGCS and others. Chair for the EAI IoT 360 Summer School.

Hobbies

Paragliding	Flying since 20 years, licensed for taking passengers
Open Source	More than 3000 contributions on Github. Author of a unique game: www.nomyx.net.