SMART CITY INSTITUTE
HEC Liège

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21ST EMAN CONFERENCE | #EMAN17

LIÈGE, 27-29 JUNE 2017

SUSTAINABILITY ACCOUNTING AND CONTROL FOR SMART CITIES

CONTENTS

DR. NATHALIE CRUTZEN

Associate Professor
Director of the Smart City Institute
HEC Liege, University of Liege
Belgium

As director of the Smart City Institute at HEC Liège, University of Liege, I am very pleased to welcome you in our city for the 21st EMAN conference on Sustainability Accounting and Control for Smart Cities.

Making a city "smart" is emerging as a strategy to mitigate the problems generated by the urban population growth and rapid urbanization and, more globally, to facilitate the transition of (urban) territories towards sustainability. Despite its tremendous popularity, the smart city concept itself is still emerging and the work of defining and conceptualizing is in progress. In addition, we know very little about why and how to account, monitor and control smart cities and related projects while it is now clear that assessing, measuring, managing and controlling social, environmental and economic performances as well as a real strategic vision are key for their development and success in the future.

Based on this observations, this conference aims at stimulating discussions and at contributing to theory and practice in these fields. I am very happy to tell that around 50 professors and scientific researchers from all over the world will share their work during plenary and parallel sessions over the next days. A Special Issue will also be published in the next months in the Sustainability Accounting, Management and Policy Journal, in relationship with this conference. In addition, numerous practitioners (such as city leaders and managers, politicians, company representatives & institutional actors) will also share their experience with us during this conference and contribute actively to its success. The ultimate objective is definitely to create bridges between science and practice in order to contribute to Smart City success and development.

In the historical and cultural city of Liege, I wish you a pleasant stay and a fruitful participation to the 21st EMAN conference on Sustainability Accounting and Control for Smart Cities !

EMAN

The EMAN (Environmental and sustainability Management Accounting Network) is an international network made up of academic and practitioners experts in the field of environmental, social and sustainable accounting.

This global network is divided into four regional subnetworks. Each organises its own annual conference :
- EMAN Europe,
- EMAN Asia-Pacific,
- EMAN Africa et,
- EMAN Americas.

The EMAN Europe Conference was held in Lüneburg, Germany in september 2016 and will take place, in 2018, in Galati, Romania from June 21st to 22nd. The next Conference will focus on *Social responsibility and sustainability accounting – Key corporate performance drivers and measures*.

STEERING COMMITTEE MEMBERS

Nathalie Crutzen	HEC Liège, University of Liege, Belgium
Maria Csutora	Corvinus University of Budapest, Hungary
Igor Alvarez Etxeberria	University of Basque Country, Spain
Delphine Gibassier	Toulouse Business School, France
Edeltraud Günther	Technical University Dresden, Germany
Rodney Irwin	World Business Council for Sustainable Development, Switzerland
Christine Jasch	Institute for Environmental Economics Vienna, Austria
Karen Maas	Department of Business Economics Erasmus School of Economics Erasmus University Rotterdam, The Netherlands
Stefan Schaltegger (Chairman)	Centre for Sustainability Management, Leuphana University Lüneburg, Germany

SCIENTIFIC COMMITTEE

In order to ensure the quality of the scientific papers presented during the parallel sessions of the conference, a scientific committee has been established.

SCIENTIFIC COMMITTEE MEMBERS

Igor Alvarez   University of Basque Country, Spain

Pieter Ballon   Vrije Universiteit, Brussels, Belgium

Annick Castiaux   University of Namur, Belgium

Nathalie Crutzen   University of Liege, Belgium

Edeltraud Guenther   Dresden University of Technology, Germany

Ki-Hoon Lee   Griffith University, Australia

Karen Maas   Erasmus School of Economics, The Netherland

Stefan Schaltegger   Leuphana University Luneburg, Germany

Didier Van Caillie   University of Liege, Belgium

THE SMART CITY INSTITUTE

THE SMART CITY INSTITUTE is an academic institute dedicated to the thematic of Smart Cities. It is founded on an original partnership between four private companies (Accenture, Belfius, Proximus and Schréder), a University and its Management School (HEC Liège) and Wallonia.

This academic institute aims at stimulating research, teaching, innovation and entrepreneurship in the field of the "Smart City". The SCI proposes to approach this thematic from a managerial angle (not a technical one) while collaborating with other disciplines (necessary multidisciplinary approach).

This academic institute consists of:

1. Professors and scientific researchers;
2. Public and private partners;
3. Experts in the development of the "Smart Cities" (experts in technology, real estate, infrastructures, financial services, energy, project management).

PRIVATE PARTNERS

- In the continuity of the activities carried out over the last years by the **Accenture** Chair in Sustainable Strategy at HEC Liège, the founding partner of the institute is the multinational consulting company, Accenture.
- **Belfius** contributes to the initiatives of the institute by sharing its expertise in finance with the ecosystem.
- Thanks to the solutions that the company develops, **Proximus** particularly supports innovation and entrepreneurship.
- **Schréder** is fully committed to developing innovative technologies that help cities to meet the challenges of tomorrow. Therefore, it works alongside cities, research centers and technology start-ups to develop solutions which meet the needs of future generations.

PUBLIC PARTNERS

Wallonia supports the institute and more specifically the plan Digital Wallonia. In particular the Smart City Institute is an official partner of its Digital Wallonia Strategy.

MISSIONS

The mission of the Smart City Institute is to "contribute to the general development of smart cities by training future managers, developing research, entrepreneurship and innovation as well as facilitating sustainable value creation between actors of smart ecosystems thanks to networking and thanks to an access to multidisciplinary skills and to the most innovative technologies".

To tackle its mission, the Smart City Institute is developing three complementary activities (three pillars of the SCI): research, teaching and entrepreneurship. These activities are supported by tranversal activities of sensitization and awareness. Moreover, from its beginning, a real national and international perspective has been given.

Finally, even if it is true that the issues and challenges of smart cities need to be analysed under the angle of various disciplines, management is clearly a crucial axis which has been little investigated, as proposed by Smart City Institute.

JUNE 27TH, 2017

15:00 - 16:00	Registration	Entry Hall of HEC Liège
16:00 - 18:00	City Tour of Liège	Entry Hall of HEC Liège
18:30 - 19:30	Welcome Drink	Town Hall - Liège

JUNE 28TH, 2017

8:30 - 9:00	**Registration** Combined with a quick breakfast	Entry Hall of HEC Liège
9:00 - 9:05	**Official Opening by Academic Authorities** by Prof. Wilfried Niessen (General Director and Dean, HEC Liege, University of Liege, Belgium)	030
9:05 - 9:30	**Introduction to the 21st EMAN Conference** Prof. Nathalie Crutzen (Smart City Institute, HEC Liege) and Prof. Stefan Schaltegger (Leuphana University Luneburg, Germany)	030
9:30 - 10:30	**Plenary Session** *« Smart City Indicators: the need of different types of indicators »* by Prof. Rudolf Giffinger, TU Wien	030
10:30 - 12:00	**Parallel Sessions** See details on page 16 to 17	034 - 035 - 115 - 120 - 126 - 220 - 1711 - 1715
12:00 - 13:15	**Lunch**	135

PROGRAM

| 13:20 - 14:00 | **Plenary Session**
« *The Economics of Smart City Policies* »
by Prof. Andrea Caragliu, Politecnico di Milano | 030 |

| 14:00 - 15:10 | **Panel Discussions**
« *Smart City Evaluation: from Theory to Practice* »
Panelists : Nikolaos Kontinakis (Eurocities), Céline Vanderborght (CIRB), Vincent Van Quickenborne (City of Kortrijk) and Prof. Rudolf Giffinger (TU Wien)

« *Companies' Perspectives on Smart Cities: Vision, Projects and Monitoring* »
Panelists : Sandra Ajzenman (Proximus), Loïc Bar (Opinum), Yves Caprara (Prayon) and Denis Mortiaux (Schréder) | 030 |

| 15:10 - 15:30 | **Coffee Break** | Entry Hall |

| 15:30 - 17:30 | **Parallel Sessions**
See details on pages 20 to 22 | 034 - 035 - 115 - 120 - 126 - 220 - 1711 - 1715 |

| 17:30 - 18:00 | **First day Closing Session**
« *From Smart City to Smart Region : Strategy and Monitoring in Wallonia* »
by Digital Wallonia | 030 |

JUNE 28TH, 2017 - CONFERENCE DINNER

| 19:00 - 20:00 | **Drink** | Cité Miroir |

| 20:00 - 21:00 | **Keynote**
« *Innovation, ecosystems and smart cities* »
by Francis Pisani
Introduced by Mr. Minister Jean-Claude Marcourt | Cité Miroir |

| 21:00 - 23:00 | **Gala Dinner** | Cité Miroir |

PROGRAM

JUNE 29TH, 2017

9:00 - 9:30	**Registration** Combined with a quick breakfast	Entry Hall of HEC Liège
9:30 - 10:30	**Plenary Session** *« Smart Cities in Belgium and Wallonia: Research, Projects and Insights from the Smart City Institute »* By Nathalie Crutzen, Jonas Van Bockhaven and Jonathan Desdemoustier (Smart City Institute, HEC Liege)	030
10:30 - 12:00	**Parallel Sessions** See details on pages 23 to 24	034 - 035 - 115 - 120 - 126 - 220 - 1711 - 1715
12:00 - 13:00	**EMAN Closing Ceremony** By Prof. Wilfried Niessen (General Director and Dean, HEC Liege, University of Liege, Belgium) and Prof. Nathalie Crutzen (Smart City Institute, HEC Liege)	030
13:00 - 14:30	**Farewell Lunch**	135

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KEYNOTE SPEAKERS

Mag. Dr. Rudolf Giffinger
June 28 - 9:30 to 10:30 - 030

Keynote Address :
"Smart City Indicators: the need of different types of indicators"

Since 2006 Rudolf Giffinger is Head of the Centre of Urban and Regional Research in the Department of Spatial Planning at TU Wien. As a Full Professor of Regional Science his main fields in research and teaching are urban development and strategic advice of urban development policy, smart city issues, international urbanisation and metropolitan development. Recently, his main topic in research is on smart positioning of cities in the European urban system as well as on energy efficient urban development.

Rudolf Giffinger is co-editor of the German speaking journal 'FORUM Raumplanung' (since 2000) and the series 'Jahrbuch Raumplanung' (since 2013). Since 2013 he is member of the Senate at TU Wien and official member of the council for Environmental Matters of the City of Vienna. Main publications are concentrating on urban and metropolitan development and Smart City issues.

Prof. Andrea Caragliu
June 28 - 13:20 to 14:00 - 030

Keynote Address :
"The Economics of Smart City Policies"

Born in Rome, Andrea Caragliu is Tenured Assistant Professor of Regional and Urban Economics at Politecnico di Milano since 2015. He is Book Review Editor for Papers in Regional Science and Co-Editor of the Regional Science Association International (RSAI) Newsletter. He has published on several international refereed journals.
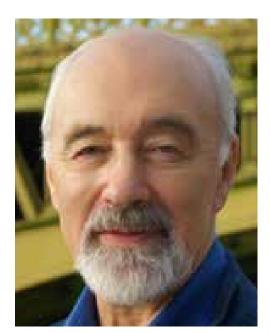
He obtained two Ph.D. A Ph.D in Spatial Economics at the VU University Amsterdam, 2015, and a Ph.D. in Management, Economics and Industrial Engineering at the Politecnico di Milano in 2010. The dissertation has been awarded the Merit Prize of the EU Committee of the Regions Prize for the Best Doctoral Dissertation and Diploma d'Onore AISRe for the best doctoral dissertation in Regional Science "Giorgio Leonardi" 2010.

Dr. Francis Pisani

June 28 - 20:00 to 21:00 - Cité Miroir

Keynote Address :
"Innovation, Ecosystems and Smart Cities"

Author, columnist, speaker, consultant, Francis Pisani analyzes information technology's social, urban, and geopolitical impacts.

He is currently working on smart cities the world over. His articles appear on fr/Citynnovation. He recently published 2 books (*Travels in the smart cities, between datapolis and participolis* and on the *Future of innovation*)

After being based for fifteen years in the San Francisco Bay Area, he completed a yearlong world tour of innovation in ICT and innovation strategies: 45 cities, 32 countries, 5 continents. His travelogue is being adapted into a book which will be published in English, French, and Spanish.

A long time journalist, his articles have been published by more than 100 publications, including by many newspapers of record (Le Monde, El País, Folha de São Paulo, etc). Among other books, he co-authored with Dominique Piotet the award winning How the web is changing the world (Pearson).

Francis has lectured at Institut d'Études Politiques (Sciences-Po, Paris), at UC-Berkeley and at Stanford University. He was a '93 Nieman Fellow at Harvard University. He has earned his doctorate in Political Science-Latin American Studies at La Sorbonne (Paris).

PANEL DISCUSSION SPEAKERS

"SMART CITY EVALUATION: FROM THEORY TO PRACTICE"
June 28 - 14:00 to 14:40 - 030

Nikolaos Kontinakis

Project Coordinator at Eurocities, Brussels

Nikolaos Kontinakis works as a project coordinator for the knowledge society and smart cities projects of EUROCITIES, Brussels.

He coordinates the Green Digital Charter initiative , the development of a performance measurement framework for smart cities (CITYkeys project), the promotion of green ICT via the ICTfootprint.eu project and the EU-China innovation platform on sustainable urbanisation (URBAN-EU-CHINA project).

For the last 15 years, he has worked as a project coordinator and researcher in the areas of ICT, energy policy and the smart and sustainable development of local authorities.

Loïc Delhuvenne

Director of the Eurometropolis Lille-Kortrijk-Tournai Agency

Loïc Delhuvenne is the director of the Eurometropole Lille-Kortrijk-Tournai Agency since 2016.

The Eurometropolis Lille-Kortrijk-Tournai brings together 14 institutions (French, Walloon and Flemish institutions) : two Countries, three Regions, three Departments and Provinces and five Inter-Communal Authorities.

The aim of the Eurometropolis is to serve the cross-border community (politics, institutions, companies, municipalities, associations, citizens, etc.) in order to set up usefull actions for French and Belgian territories users, in particular the implementation of a digital network at the Eurometropolis scale.

Céline Vanderborght

Smart City Manager for the Brussels Capital Region

Further to her experience as eGovernment Manager and having gained a diploma in Urban Planning and Sustainable Development in addition to her commercial engineering studies, she is increasing awareness of and promoting Smart City projects in Brussels, paying special attention to the topics of Open Data, data governance and citizen participation.

"COMPANIES' PERSPECTIVES ON SMART CITIES: VISION, PROJECTS AND MONITORING"
June 28 - 14:40 to 15:10 - 030

Sandra Ajzenman

Integrated Value Proposals & Smart City Manager @Proximus Group

Commercial engineer, Sandra joined the Proximus Group in 2000 and moved in several departments, acquiring a broad knowledge in fix and mobile product lines as well as in marketing and management. In 2012, Sandra became Manager of the team in charge of the National Mobile Solutions for the professional market.

In the beginning of 2017, she took up a new challenge in the Professional Telco solutions division, being in charge of developing the value proposals for the Smart Cities and Smart Buildings.

Her challenge is to define, drive and deploy the Smart City strategy and tactics in the public market in order to support the cities in their digital transformation, through the definition of a new ecosystem of innovative solutions and the development of relevant partnerships.

SPEAKERS

Loïc Bar
CEO at Opinum

Loïc Bar is the founder & CEO at Opinum (formerly The Smart Company) and has previously worked as team lead for McKinsey & Company.

He is the author of several publications and 4 technical books. Passionate about entrepreneurship, he is mentor for the Founder Institute. He leads the strategic development of Opisense™ solution in Europe and develops visibility and credit for the company.

Yves Caprara
Managing Director and CEO at Prayon

M. Yves Caprara joined Prayon in 1989 as Managing Director of its commercial branch Prayon UK Plc in Harpenden.

Prior to joining Prayon Yves Caprara served as Marine Distribution Planner and later as Customer Service Manager at Exxon Chemicals Europe from June 1989 until Sept 1994.

In 1994 he became General Manager of Europhos SA – a joint venture between Rhodia and Prayon specialized in speciality phosphates before becoming the CFO of the Prayon group in 1998.

M. Caprara was apppointed CEO of the Prayon group in 2008 following the retirement of Prayon's outgoing General Manager Willy Marlier.

He holds a Master degree from Solvay Business School – University of Brussels.

M. Caprara is the former president of Greenwin – Pole of competitivity of the Walloon region dedicated to green chemistry and environmental technologies and is serving as a member of HEC Liege Supervisory Board and Director of UWE (Union Wallonne des Entreprises).
M. Caprara is also currently Member of the Finance Committee of the International Fertilizer Association (IFA).

Denis Mortiaux
Managing Director at Schréder Benelux

Sales oriented, multi-cultural managing director of middle size companies, having led sales growths as well as turnarounds in Belgium, Europe and North America.

He worked for Sumitomo Corporation, Balta Groep, and now Schréder since 2000. He is currently the Managing Director of Schréder Benelux (4 companies). He is also a board Member of Lightrec Recupel and of IBE/BIV (Institut Belge de l'Eclairage).

In order to present you some belgian Smart City initiatives, we invited five start-ups to our lunch on wednesday June 28th. You will have the opportunity to meet them from 12:00 to 13:15 at the lunch room.

CONNECT2MOVE is a small IT company located in Liège, Belgium. Based on the geographic information system (GIS) and on the "meeting point" concept, it develops a B2B Web service that maximise the transportation pooling. Connect2Move can quickly increase the performance of many transportation pooling initiatives in the World. The transportation pooling is one of the ways toward a sustainable mobility in many countries.

FOODWIN is the European Food Waste Innovation Network supporting European cities to reduce food waste. They empower urban food systems to reduce food waste through concrete actions. FoodWIN offers concrete tools to cities and elaborates inspiring solutions in line with local situations. They believe in co-creation and inclusiveness. Through a multi-stakeholders approach, They devise impactful solutions to move faster towards a Zero Food Waste Europe.

HYTCHERS is a distribution solution that allows e-commerce parcels to be delivered by private individuals. The service consists in coordinating independent carriers – called the "hytchers" - to stop by petrol stations to collect parcels for onward transportation. Carriers are notified about pending parcels along their route by the means of an app. Just as with the hitchhiking concept, parcels go from one station to another, carried by one hytcher to another, until they finally reach their destination.

KOALECT is a Belgian start-up that builds crowdfunding, fundraising and crowd engagement platforms for NGOs, cities, universities, hospitals and other social profits. Unlike traditional platforms such as Kickstarter or Indiegogo, Koalect builds personal environments in which organisations can use our extensive toolbox for differentiated fundraising, which besides crowdfunding can also be used for product sales, events, donations or votings.

LETSGOCITY suggests to centralise the access to information sources and local solutions into a single platform that will follow the citizen in his day-to-day life. With Letsgocity, each citizen builds his own selection of content and local services. This personal selection communicates with him thanks to instantaneous messages that simplify his day-to-day life. Letsgocity is now available in pilote version with two mobile applications and one website.

Loïc Bar
CEO at Opinum

opinum

Opinum is an ICT company which has developed Opisense, a secure Web platform which analyses energy consumption data to improve the environmental and energy management of buildings.

EU Energy Transition is on track, but buildings still lag behind

DECARBONISED

DECENTRALISED

DIGITALISED

40% of CO_2 production results from bad temperature management in buildings.

Renewable energies, mostly solar and wind, are rapidly growing and are gaining grounds on traditional counterparts.

Opisense digitalizes building data, rationalizes energy usage and opens opportunities for advanced energy management.

Microsoft   TOTAL   proximus   BW   AG REAL ESTATE

ULB   eDF luminus   EXKi   Ville d'Ottignies-Louvain-la-Neuve   Sibelga

JUNE 28 - FROM 10:30 TO 12:00

SESSION 1.1 - ROOM 1711

Title : Special Track - Sustainability Accounting and Monitoring for Smart Cities

Chair : Djida Bounazef

Paper 1	Paper 2	Paper 3
Step towards innovative governance for strategic UGI planning: Linking stakeholders' network structure and application of UGI planning principles	Smart City Projects: Designing a Project-Level Smart Value Assessment Instrument	The development of sustainable mobility strategy in Belgian cities
Speaker: Antonija Bogadi Technical University Vienna, Austria	**Speaker:** Joachim Van Den Bergh KU Leuven, Belgium	**Speaker:** Djida Bounazef-Vanmarsenille University of Liège, Belgium
Author: Antonija Bogadi	**Authors:** Joachim Van Den Bergh, Lieselot Danneels, Stijn Viaene	**Authors:** Nathalie Crutzen, Wei Qian, Djida Bounazef-Vanmarsenille

SESSION 1.2 - ROOM 220

Title : Sustainability and Environmental Management Accounting and Performance (EMAN track)

Chair : Delphine Gibassier

Paper 1	Paper 2	Paper 3	Paper 4
The usefulness of Environmental and Sustainability Management Accounting (EMA) for corporate sustainability management in developed and developing countries: a comparative study between Australia and Sri Lanka	Measures for Sustainable Investment Decision Making - A Triple Bottom Line Approach	Social assessment and management of conflict minerals in supply chains. A systematic literature review	The impact of social responsibility upon the financial performance. Romanian experience
Speaker: David Herold Griffith University, Australia	**Speaker:** Maite Cubas-Díaz University of the Basque Country, Spain	**Speaker:** Stefan Schaltegger Leuphana University Lüneburg, Germany	**Speaker:** Florian Marcel Nuta Danubius University, Romania
Authors: Ki-Hoon Lee, Nuwan Gunarathne, David Herold	**Authors:** Maite Cubas-Diaz, Miguel Ángel Martinez Sedano	**Authors:** Samanthi Luisa Silva, Stefan Schaltegger	**Authors:** Florian Nuta, Stefan Gheorghe

SESSION 1.3 - ROOM 120			
Title : Energy Management & Mobility in Smart Cities			
Chair : Nathalie Crutzen			
Paper 1	Paper 2	Paper 3	Paper 4
Smart Grid tomorrow ? How a medium size organization could contribute	An integrated logistics decision support model for city logistics	Transport and Energy Taxation : Legal Prospects on the Transition towards Sustainable Road Passenger Mobility in Belgium	A multi-stakeholder decision support system for local neighbourhood energy planning
Speaker: Olivier Bomboir CE+T, Belgium	Speaker: Sabine Limbourg University of Liège, Belgium	Speaker: Fanny Vanrykel University of Liège, Belgium	Speaker: Sanne Hettinga VU Amsterdam, The Netherlands
Authors: Olivier Bomboir	Authors: Sabine Limbourg	Authors: Fanny Vanrykel	Authors: Sanne Hettinga, Peter Nijkamp, Henk Scholten

SESSION 1.4 - ROOM 1715			
Title : Special Track - Sustainability Accounting and Monitoring for Smart Cities (Best Pratices)			
Chair : Rodney Irwin			
Paper 1	Paper 2	Paper 3	Paper 4
On our way to sustainable and attractive cities: development, management, monitoring and communication of climate action plans in one handy online tool, FutureproofedCities. Cases of Belgian cities: Vilvoorde, Overijse and Antwerp	The MultiCapital Scorecard (MCS) Multicapitalism and performance measurement	The City of Brussels "Smart City innovations at the City of Brussels"	Co-development of an indicator framework with the City of Almere, The Netherlands
Speakers: Laetitia Pirson and Serge De Gheldere Futureproofed, Belgium	Speaker: Martin Thomas, MultiCapital Scorecard, UK	Speaker: Filis Zumbultas Smart City Manager, Brussels, Belgium	Speaker: Peter Bosch TNO, The Netherlands
Authors: Laetitia Pirson, Maarten Lenaerts, Willem Delbare, Jan Aerts, Steven Van Praet, Serge De Gheldere	Authors: Martin Thomas, Mark Mc Elroy	Authors: Filis Zumbultas	Authors: Peter Bosch

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JUNE 28 - FROM 15:30 TO 17:30

SESSION 2.1 - ROOM 1711

Title : Special Track : Sustainability Accounting and Monitoring for Smart Cities

Chair : Jonas Van Bockenhaven

Paper 1	Paper 2	Paper 3	Paper 4
Smart City performance measurement: state of affairs	French smart cities: which factors are key to manage a sustainable development?	A behavioural analysis approach for the "City of Things"	Spatially and temporally explicit Life Cycle Assesment of building stock retrofitting actions at the urban scale
Speaker: Jonas Van Bockhaven University of Liège, Belgium	**Speaker:** Eurydice Bled University of Pau et des Pays de l'Adour, France	**Speaker:** Katharina Hoelck Vrije Universiteit Brussels, Belgium	**Speaker:** Antonino Marvuglia Luxembourg Institute of Science and Technology (LIST), Luxembourg
Authors: Jonas Van Bockhaven, Nathalie Crutzen	**Authors:** Igor Alvarez, Eurydice Bled, David Crassus, Jacques Jaussaud	**Authors:** Katharina Hoelck, Gavin McCrory, Shenja Van Der Graaf	**Authors:** Alessio Mastrucci, Antonino Marvuglia, Enrico Benetto, Ulrich Leopold

SESSION 2.2 - ROOM 220

Title : Special Track : Sustainability Accounting and Monitoring for Smart Cities

Chair : Nathalie Crutzen

Paper 1	Paper 2	Paper 3	Paper 4
International Smart City Indexes: Emerging Trends and Metrics in City Competitiveness	Questioning investment decisions on the city level: Is it sustainable to upgrade wastewater treatment plants?	Data Literacy for Greater Civic Participation in Smart Cities "Visualising Open Mobility Data"	Hardware vs. software: How to make the energy system smarter?
Speaker: David Herold Griffith University, Australia	**Speaker:** Christin Seifert Technische Universität Dresden, Germany	**Speaker:** Carina Veeckman Vrije Universiteit Brussels, Belgium	**Speaker:** Axel Gautier University of Liège, Belgium
Authors: Nathalie Herold, David Herold	**Authors:** Christin Seifert, Teresa Krannich, Edeltraud Guenther	**Authors:** Carina Veeckman, Gavin McCrory, Nils Walravens	**Authors:** Axel Gautier, Julien Jacqmin

SESSION 2.3 - ROOM 1715

Title : Sustainability Performance Measurement (EMAN track)

Chair : Stefan Schaltegger

Paper 1	Paper 2	Paper 3	Paper 4
Measuring positive sustainability. A systematic literature review	Sustainability Performance Evaluation using Sustainability Reports	Are extant tools fit for measuring the business contribution to sustainability?	Uncertainty and hybrid life cycle assessment
Speaker: Stefan Schaltegger Leuphana University Lüneburg, Germany	**Speaker:** Ramona Zharfpeykan University of Auckland, New Zealand	**Speaker:** Norma Schönherr Vienna University of Economics and Business, Austria	**Speaker:** Paul Baustert Luxembourg Institute of Science and Technology (LIST), Luxembourg
Authors: Samanthi Luisa Silva, Philip Beske-Jansen, Stefan Schaltegger	**Authors:** Ramona Zharfpeykan, Davood Askarany, Paul Rouse	**Authors:** Norma Schönherr, Florian Findler, Andre Martinuzzi	**Authors:** Paul Baustert, Thomas Gibon, Tomas Navarrete Gutiérrez, Enrico Benetto

SESSION 2.4 - ROOM 120

Title : Smart Cities' approaches

Chair : Didier Van Caillie

Paper 1	Paper 2	Paper 3	Paper 4
Smart City concepts: from perception to acceptability	Benefits and Opportunities of Climate Adaptation in Cities: Findings of Systematic Literature Review	From local initiatives to territorial transition project: case study of a grassroots food belt project in Liège (Belgium)	The value of the ERM philosophy for a Sustainable City: the development of a Sustainable City Risk Management approach
Speakers: Clémentine Schelings and Catherine Elsen University of Liège, Belgium	**Speaker:** Jo-Ting Huang-Lachmann Technische Universität Dresden, Germany	**Speaker:** Marlène Feyereisen University of Liège, Belgium	**Speaker:** Didier Van Caillie University of Liège, Belgium
Authors: Clémentine Schelings, Catherine Elsen	**Authors:** Jo-Ting Huang-Lachmann	**Authors:** Marlène Feyereisen, Pierre M Starssart, Christian Jonet	**Authors:** Didier Van Caillie, Marius Kamto Kenmogne

SESSION 2.5 - ROOM 115 - FRENCH

Title : Smart Cities in Wallonia (in French)

Chair : Jonathan Desdemoustier

Paper 1	Paper 2	Paper 3	Paper 4
City of Charleroi "Une approche intégrée et holistique d'une gestion de la mobilité au service d'une ville en transition"	City of Liège "La nouvelle démocratie citoyenne : Réinventons Liège"	City of Namur "Namur Smart City, de l'intelligence numérique à l'intelligence humaine collective"	City of Mons "Approche smart city pour redynamiser le centre-ville"
Speaker: Carina Basile Smart City Manager	**Speaker:** Kathlyn Jaminon Smart City Manager	**Speaker:** Nicolas Himmer Smart City Manager	**Speaker:** David Picard Chargé de Projets Nouvelles Technologies

JUNE 29 - FROM 10:30 TO 12:00

SESSION 3.1 - ROOM 120

Title : Special Track : Sustainability Accounting and Monitoring for Smart Cities

Chair : Nathalie Crutzen

Paper 1	Paper 2	Paper 3
The Vision Matrix: A Qualitative Approach to Support Vision-Creation for Smart' Public Organisations	Spatial OnLine Analytical Processing Applied to Cities Security with Raster Data. A Case Study on Emergency Services of Brussels Agglomeration	Urban agriculture: a sustainable added value for smart cities
Speaker: Nils Walravens Vrije Universiteit Brussels, Belgium	**Speaker:** Jean-Paul Kasprzyk University of Liège, Belgium	**Speaker:** Haissam Jijakli University of Liège, Belgium
Authors: Nils Walravens	**Authors:** Jean-Paul Kasprzyk, Guénael Devillet	**Authors:** Haissam Jijakli

SESSION 3.2 - ROOM 115

Title : Special Track : Sustainability Accounting and Monitoring for Smart Cities

Chair : Stefan Schaltegger

Paper 1	Paper 2	Paper 3	Paper 4
Transitioning to smart eco-systems: the importance of intermediaries in scaling-up social innovations	Sustainability and Business Models for Smart City	Monitoring Smart Cities	The use of sustainability management control systems in Japanese companies: The influence of institutional pressures and the impact on organizational capabilities and performance
Speaker: Annick Castiaux University of Namur, Belgium	**Speaker:** Hélène Bleus University of Liège, Belgium	**Speaker:** Jan Waeben Vrije Universiteit Brussels, Belgium	**Speaker:** Jaehong Kim School of Economics, Kaneto-Gakuen University, Japan
Authors: Annick Castiaux, Cholé Faton	**Authors:** Hélène Bleus, Nathalie Crutzen	**Authors:** Jan Waeben	**Authors:** Jaehong Kim, Katsuhiko Kokubo

SESSION 3.3 - ROOM 220

Title : Carbon accounting and performance measurement (EMAN track)

Chair : Delphine Gibassier

Paper 1	Paper 2	Paper 3	Paper 4
Carbon tax implementation in South Africa: Is it the right time?	From carbon cowboys to glocal GHG accounting professionals	Hochschule Ruhr West - A role model for CO2 accounting in public administration in NRW	The effects of Board Characteristics on Companies Sustainability Performance
Speaker: Michael Fakoya University of Limpopo, South Africa	**Speaker:** Delphine Gibassier Toulouse Business School, France	**Speaker:** Frederik Pöschel and Christopher Buers Effizienz-Agentur NRW/Prisma consult gmbh, Germany	**Speaker:** Eugenio Zubeltzu Basque Country University, Spain
Authors: Michael Fakoya	**Authors:** Delphine Gibassier, Smai El Omari	**Authors:** Frederik Pöschel and Christopher Buers	**Authors:** Eugenio Zubeltzu, Igor Alvarez, Eduardo Ortas

SESSION 3.4 - ROOM 126

Title : Smart Cities and governance

Chair : Jonas Van Bockhaven

Paper 1	Paper 2	Paper 3	Paper 4
Municipalities' understanding and importance of the concept of Smart Cities: an exploratory analysis in Belgium	Open Workshops in the context of Smart Cities - Types and Potentials for Sustainability and Innovation	Governance in Smart Cities - Example of the Capital City of Prague	Burdens of Access: Understanding Customer Barriers and Barrier-Attenuating Practices in Access-Based Services
Speaker: Jonathan Desdemoustier University of Liège, Belgium	**Speaker:** Michael Steinfeldt University of Bremen, Germany	**Speaker:** Miroslav Hajek Czech University of Life Sciences, Czech Republic	**Speaker:** Simon Hazée University of Liège, Belgium
Authors: Jonathan Desdemoustier, Rudolf Giffinger, Nathalie Crutzen	**Authors:** Michael Steinfeldt, Bastian Lange, Valentin Domann	**Authors:** Jan Lípa, Miroslav Hajek, Pavla Kubova	**Authors:** Simon Hazée, Cécile Delcourt, Yves Van Vaerenbergh

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Special Issue: Call for Papers
Sustainability Accounting, Management and Policy Journal

Sustainability Accounting and Control for Smart Cities

Guest Editors
Nathalie Crutzen, Smart City Institute, HEC Liege, University of Liege (Belgium)
Jonas Van Bockhaven, Smart City Institute, HEC Liege, University of Liege (Belgium)
Stefan Schaltegger, CSM, Leuphana University, Lueneburg (Germany)
Rudolf Giffinger, Professor, Head of Centre of Urban and Regional Research, Department of Spatial Planning, TU Wien (Austria)

What's the Special Issue about?
Making a city "smart" is an emerging approach to mitigate sustainability problems caused by rapid urbanization and urban population growth, and, more globally, to facilitate the transition of cities towards sustainable development (economic prosperity as well as environmental quality and social well-being). In this context, new technologies can play an important role as an enabler for sustainable urban development. Smart cities basically, are supposed to cope with problematic trends endangering sustainability and to improve respective quality standards through intelligent initiatives and projects in corresponding key fields of urban development: smart economy, smart people, smart governance, smart mobility, smart environment, and smart living (Giffinger, 2007).

An increasing number of publications have discussed the smart city approach for the last recent years (Kummitha and Crutzen, 2017). However, the smart city concept itself is still emerging and the work of defining and conceptualizing is in progress. In addition, the vast majority of these publications focuses on urban and regional planning, governance and behavioural aspects or technology innovation while from a sustainable development perspective scholars need to move beyond urban and economic research to embrace management and interdisciplinary perspectives to better understand how these complex systems integrate social, economic, ecological, and political subsystems (Letaifa, 2015). Until now, few publications have dealt with sustainability accounting, performance measurement, control or strategic management for smart city development. However, the necessity of assessing, measuring, managing and controlling social, environmental and economic performance of the respective projects is increasing to operationalize this strategic vision and make it a success (Crutzen et al., 2017).

Several methods and frameworks for sustainability accounting and control have been established (Albino et al., 2015; Dameri, 2017). Especially the use of smart-city rankings has emerged as a method to identify strengths and weaknesses of a city leading to the improvement of smart city policies. However, given the complexity and specificity of smart cities, the development of more detailed and specific ways to assess and control smart city development remains a continuous challenge (Anthopoulos et al., 2015).

To motivate research on this topic, the 21st Environmental and Sustainability Management Accounting Network (EMAN) conference to be held from June 27th to June 29th, 2017 will focus on the theme "Sustainability Accounting and Control for Smart Cities". The conference will be hosted by the Smart City Institute at HEC Liège (University of Liege) in Belgium and is associated with a Special Issue of the *Sustainability Accounting, Management and Policy Journal.*

Scope of the Special Issue
We invite both conceptual and empirical submissions drawing on a range of theoretical perspectives and diverse methodologies. While not representing an exhaustive list, the

following topics provide a guide to relevant areas. However, the editors will consider all papers related to the broader theme of sustainability accounting and control for smart and sustainable cities and territories or related projects.

- Sustainability strategy, accounting and control for smart and sustainable cities and territories (districts, cities, regions, states)
  - Strategic planning & management
  - Assessment & performance measurement
  - Reporting and communication
  - Governance and stakeholders' dynamics
  - International standards
  - Administrative policies and procedures
  - Cultural, behavioural and geographical aspects

- Comparison and benchmarking of smart and sustainable cities and territories (districts, cities, regions, states)
  - National and International Smart City Indexes and rankings
  - Stakeholders' dynamics
  - Communication

This Special Issue will consolidate and extend conference discussions on sustainability accounting and management control for smart cities through the *Sustainability Accounting, Management and Policy Journal* publication. The Special Issue aims at encouraging researchers, practitioners and policy makers to deal with this topic by:
- Using different levels of analysis (e.g. national, regional or city-level, organizational-level or product-level),
- Focusing on one or several stakeholders (governments, multinational companies, local businesses, NGOs or citizens for example);
- Investigating one or several dimensions of Smart Cities (mobility, energy, air/water management, governance, economic development, education, fight against poverty, health, ICT, etc.)

Submissions are welcome from all countries and continents as well as from all disciplines (environmental sciences, regional planning, business/management, accounting, engineering, urban studies, etc.). The interdisciplinary approach to assessing, measuring and developing smart sustainable cities is expected to provide a broad overview on this topic.

Important notice about format of papers and the submissions
All article files should be provided in Microsoft Word format and should be between 10000 and 12000 words in length, including all text, references and appendices. All articles should be developed based upon the editorial guidelines provided in the **instructions for authors** for *Sustainability Accounting, Management and Policy Journal.*

Each paper will be reviewed by the guest editorial team and, if it is judged suitable for this publication, it will then be sent to at least two independent referees for double blind peer review.

Submission and deadlines
Submission deadline for the Special Issue: October 31, 2017.
Contributors with proposals for papers are encouraged to communicate with the co-editors by e-mail.

Contacts

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Special Issue Contact Person: Jonas Van Bockhaven, jonas.vanbockhaven@ulg.ac.be

References

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HEC LIÈGE
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This is the Management School of the University of Liège. The majority of the conferences will be held in this building.

In order to help you to find your rooms, maps are available in this brochure and signs are avalable in corridors.

Adjoining parking : Rue St Gilles, 195 - 4000 Liège
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CITY TOWN HALL
RUE DE LA VIOLETTE, 4000 LIÈGE

The City of Liège will welcome the three days event attendees to a welcome drink in the Town hall of Liège on June 27th.

Please note that the entry will be on Rue de la Violette and not on Place du Marché.
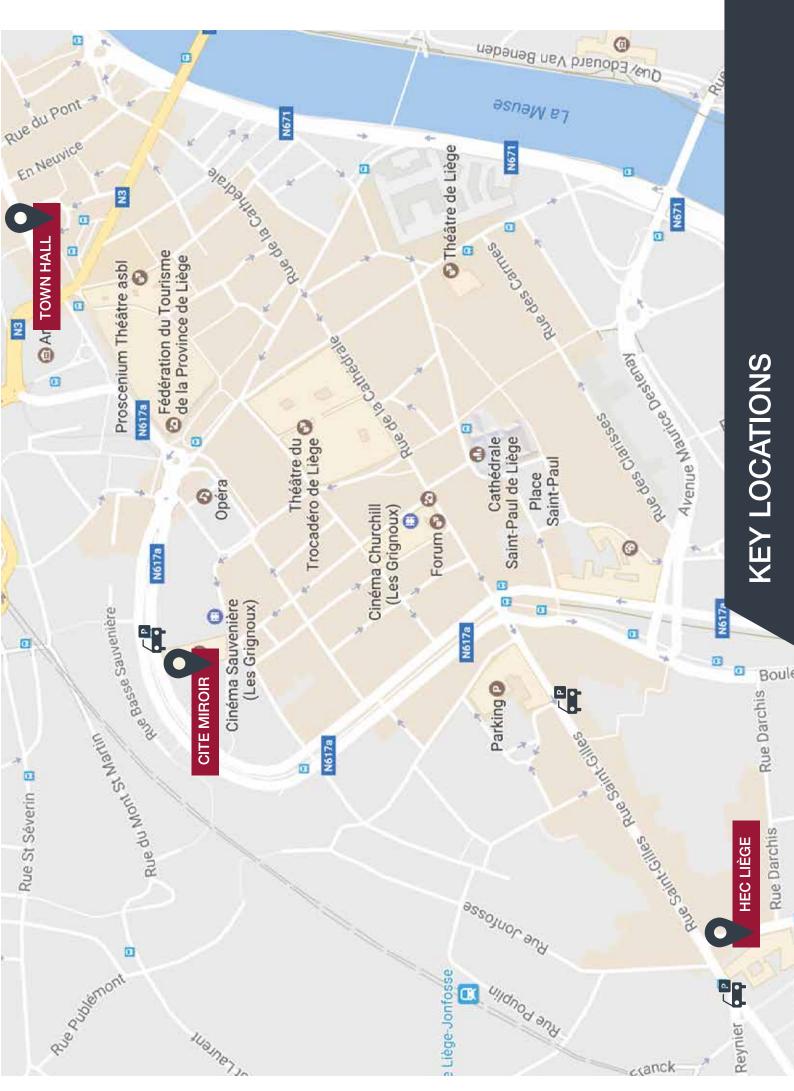
LA CITÉ MIROIR
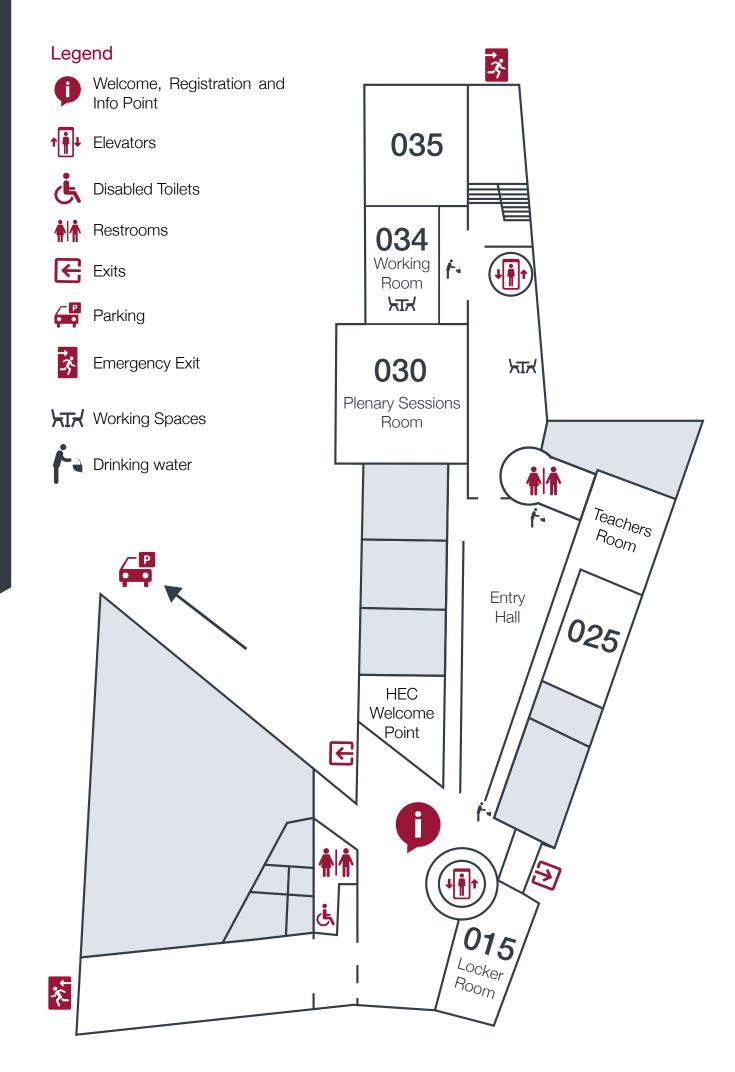PLACE XAVIER NEUJEAN, 22 - 4000 LIÈGE

These former Thermal Baths have been renovated between 2009 and 2013 and the building is now dedicated to debates, culture and education.
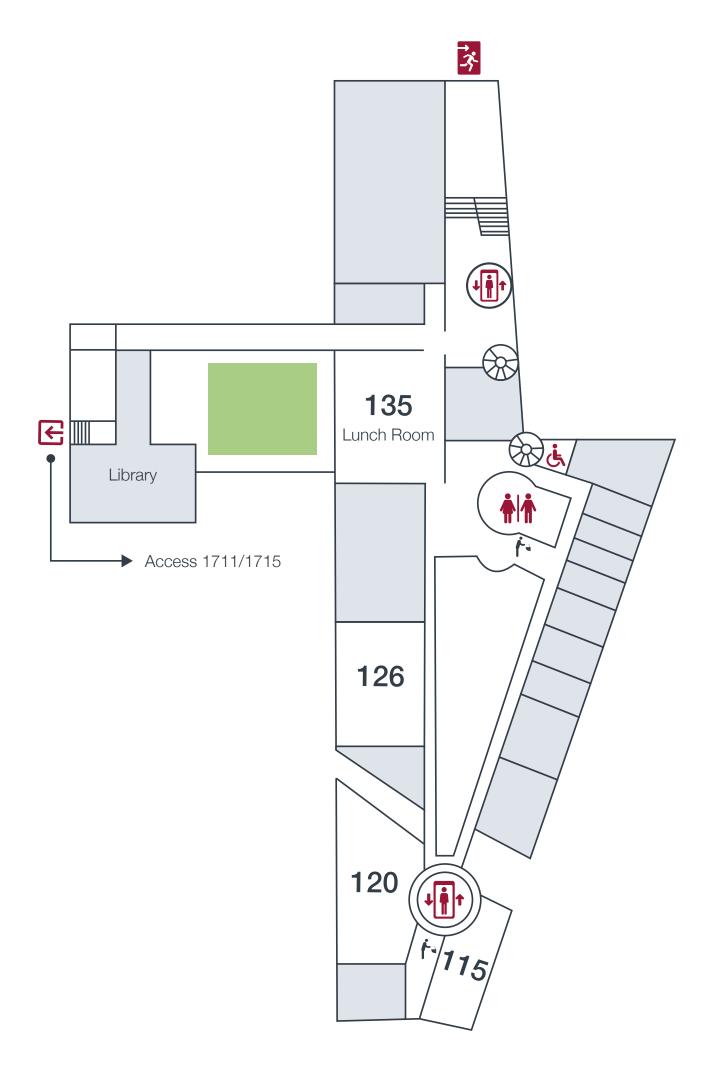
As it represents a magnificent example of urban transformation, we decided to organise the conference dinner in this beautiful place.
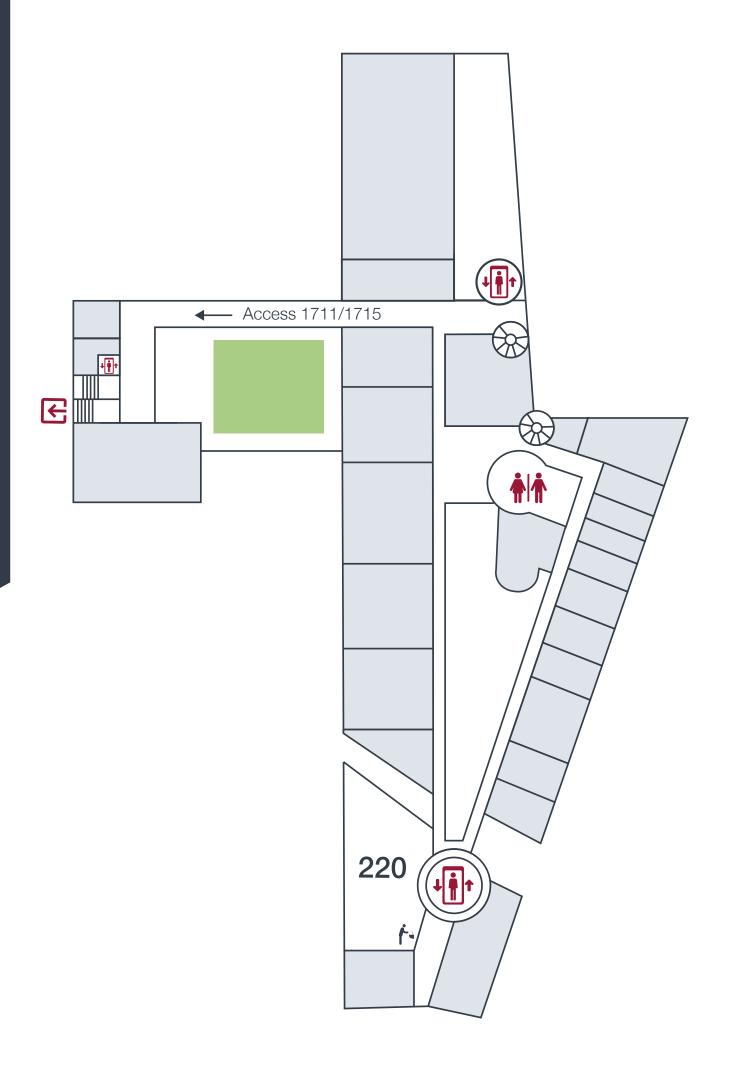
Parking : Boulevard de la Sauvenière, 45 - 4000 Liège

KEY LOCATIONS

TOWN HALL

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Rue du Pont
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Rue de la Cathédrale
Proscenium Théâtre asbl
Fédération du Tourisme de la Province de Liège
Opéra
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Cinéma Sauvenière (Les Grignoux)
Rue Basse Sauvenière
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Rue St Séverin
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- (i) Welcome, Registration and Info Point
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- Exits
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- Working Spaces
- Drinking water

035

034 Working Room

030 Plenary Sessions Room

HEC Welcome Point

Entry Hall

Teachers Room

025

015 Locker Room

135
Lunch Room

Library

Access 1711/1715

126

120

115

Access 1711/1715

220

These rooms are located on the old part of the school which you can see on the left of 1st and 2nd floor maps. To access these rooms:

- Use the extern access on 1st floor (and take the elevator untill the last floor or take the steps)
- Cross the bridge on the 2nd floor, use the last door of the first hall and take the elevator or the steps to reach the last floor.

Signs will help you to find your way.

What is most impressive about **Jules Lesmart** is his 'appeal'! By creating an ecosystem of partners and products around the legacy supplier of ICT solutions and services to Belgian cities and communities we facilitate the introduction of the public actors to the 'smart' themes. Themes they all consider as the prime route to innovation but at the same time they all fear for reasons of complexity and workload.

In order to fully exploit the opportunity cities realise indeed that multiple diverse solutions need to integrate to be able to centrally exploit the power of the data available within these solutions. This is exactly where the chemistry happens: all the members of the ecosystem are *de facto* preparing the integration of their solutions with the final objective to offer a seamless experience to the citizens/users at the same level they are used to when using the (social) applications of the established global players.

Be it the subject of mobility, citizen participation, energy or local commerce, all sector are present in this **innovative and dynamic ecosystem** that we have labeled 'Jules Lesmart'. This initiative is supported by the regional authorities who want to promote the sharing of the assets and resources of all cities and communities on its territory. Our objective at the mid long term is to add in the intelligence to fully capitalize on all data that is created and collected by all the actors in order to better understand and manage the challenges of tomorrow.

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