GRID SERVICE MARKET SYMPOSIUM
GSM 2020
NEW DATE 19-20 October
KKL Lucerne, Switzerland

GRID FLEXIBILITY & BUSINESS

featuring:
1. Developments in Grid Service Markets
2. International Collaboration
3. Advanced Technologies Providing Flexibility
4. Grid Service Operation, Enabling Technologies & special VPP Panel with
5. Impact of Trends & Developments on Grid Service Markets & Operations
6. Case Studies & Demonstrations

www.GridServiceMarket.com
The integration of a large amount of new renewable energy sources poses great challenges for the European electricity grids & markets. Network reinforcement, market harmonisation and integration are both solutions and challenges for the various players in the electricity industry. The integration of new technologies and methods to provide grid services and optimise the use of existing infrastructure is changing the face of the electricity industry in the long term.

GSM 2020 - 4th Grid Service Markets symposium - aims to outline recent developments in the European grid service markets, to highlight advancements and challenges in international cooperation and to reflect the technological progress. The two-day symposium will feature parallel sessions with invited and contributed talks and posters. The International Advisory Board (IAB) ensures that all presentations are of high quality. The technical program will include: Development in GSM, international collaboration, enabling & advanced technologies to grid service operation and impacts of trends to real world case studies (see TOPICS on next page). In the field of Virtual Power Plant (VPP) special panels with high level keynotes and deepening discussions are planned.

GSM 2020 addresses grid and technology experts, scouts and managers from the electricity industry, administration bodies and researchers interested in the commercial aspects of grid services and new technologies. The international audience will exchange on market logic, regulations and harmonization activities, future trends, operations, technology capabilities, and long term business plans and other business related aspects of European grid service markets.

GSM 2020 takes place just before and linked to the EFCF 2020 - 24th Electrolyser & Fuel Cell Forum with conference, exhibition & tutorials. Special offers allow joining also this international reference event to overview and to network with the key stakeholders from this emerging "Fuel Cells, Electrolysers & H₂ Processing" application field - www.EFCF.com.

2nd CALL for PAPERS & POSTERS

The 4th GSM 2020 has moved from July to October due to CoVid-19 pandemic. This offers the chance of a 2nd Call for Papers & Posters to the described aims and provided TOPICS below. The specially formed International Advisory Board IAB, consisting of recognized international experts, will evaluate and range the abstracts for the set-up of the program. This guarantees a high standard and that the interest of all participants and levels are met. All grid service market stakeholders - tech & knowhow providers, clients, academy, industry, GO, NGO,... - are kindly invited to submit an abstracts by 1 July 2020 (new).

Submission procedure:
3. Acceptance notification will arrive via email to main author by 25 July 2020
   PowerPoint presentation issued 2 October 2020

Publication policy:
All presentations are published in electronic proceedings distributed to the participants. Finally the cleaned proceedings will be published as open access on-line publication with the ISBN 978-3-905592-81-8 in the "GSMlibrary" and with a DOI in "Lucerne Open Repository LORY". Authors who do not wish to be included in the publications, e.g. due to publication elsewhere, can opt out and keep their full copyright.

see www.GridServiceMarket.com/Library
1. DEVELOPMENTS IN GRID SERVICE MARKETS
1.1 Regulations, country reports, market rules & regional developments
1.2 Business models & commercial analysis
1.3 TSO, DSO, P2P markets: Balancing services, capacity markets, redispatching, local energy communities, aggregation, demand response, black start,…
1.4 Grid service trading
1.5 TSO/DSO collaboration

2. INTERNATIONAL COLLABORATION
2.1 International developments
2.2 Capacity allocation & market coupling: Forward CA, physical long term CA, NTC, FBMC, day-ahead coupling, XBID, Capacity Calculation Regions (CCRs), …
2.3 System Operations Regions (SORs), …
2.4 Harmonization (GLEB,…)
2.5 Bidding zone review & new interconnectors (TYNDP, MAF)
2.6 Adequacy seasonal outlook & risk assessment

3. ADVANCED TECHNOLOGIES PROVIDING FLEXIBILITY
3.1 Storage technologies
3.2 Load management
3.3 Hydrogen technology
3.4 Power-to-heat, heat-to-power
3.5 Grid-to-vehicle, vehicle-to-grid
3.6 Sector coupling / multi-energy (CHP, district heating, power to X, …)

4. GRID SERVICE OPERATION / ENABLING TECHNOLOGIES
4.1 Advanced diagnostics & modeling
4.2 Qualification, testing, operation & field reports
4.3 Centralized & decentralized ➔ Virtual Power Plants: Special VPP panel joint with FCH JU project
4.4 Digital technologies and telecommunications (blockchain/smart contracts, IoT, 5G, LoRa,…)
4.5 Data security & data transparency
4.6 Optimized management
4.7 Control, tools & simulation
4.8 Adequacy

5. IMPACT OF TRENDS & DEVELOPMENTS ON GRID SERVICE MARKETS & OPERATIONS
5.1 Digitalization, smart metering, battery/hydrogen mobility & energy systems, behavior, …
5.2 Others

6. CASE STUDIES AND DEMONSTRATIONS

SYMPOSIUM

Events
19 Oct 09:15 - 18:00 Opening & overview sessions with keynotes, followed by oral & poster sessions
19:30 "GSM networking Dinner" in a classic, traditional hotel of Lucerne with Swissness and ambience
20 Oct 09:00 - 17:00 Keynotes, oral & poster sessions, awards & symposium summary-outlook
17:00 - 19:00 Grid Apéro followed by invitation to EFCF Welcome Reception in the exhibition area, booth visits
19:30 optional: GSM+EFCF Joint Dinner (to be booked in advance, tickets for 90.- CHF pP)
21-23 Oct optional: Join EFCF opening & overview sessions or all www.EFCF.com (Rebates for GSM participants)


The GSM Symposium is held at the Culture & Convention Centre Lucerne (KKL) on the picturesque waterfront of the lake Lucerne in the middle of Switzerland. The venue is easy to reach by car, plane & train, because it is close to car parks & railway stations, within a short distance from charming hotels & the historical town centre.

Fees www.GridServiceMarket.com/Fee

- Students, trainees & unemployed persons etc. with valid identification 300 CHF incl. 7.7% VAT where applicable
- Regular registration 700 CHF incl. 7.7% VAT where applicable
- Late charge for registrations from 1 July/1 Sept/On-Site 100/200/300 CHF incl. 7.7% VAT where applicable

The fees include access to complete GSM Symposium (sessions/posters/networking events); Conference Proceedings, Conference Bag, Business Lunch, Refreshments and the "GSM Networking Dinner" on Monday 19 Oct (supported guest tickets for 120.- CHF); GSM Grid Apéro & EFCF Welcome Reception on 20 Oct; EFCF 2020 Exhibition & Poster Hall; Attractive rebates to join EFCF Sessions and Tutorials; Post symposium access to all allowed presentations, impressions and available proceedings published with ISBN on "GSMlibrary" and with DOI on "Lucerne Open Repository" (HSLU-LORY).

Currency exchange rates: www.oanda.com; One Swiss Franc (CHF) is valued at about: 0.94 EURO, 1.03 US Dollar, 110 YEN, 7.28 CNY (May 2020)
**CHAIR of GSM 2020**

**Prof. Christoph Imboden**
Lucerne University of Applied Sciences [www.HSLU.ch](http://www.HSLU.ch)
Institute for Innovation & Technology Management, CC for Power Economy

Christoph is professor for product innovation at the Lucerne University of Applied Sciences HSLU and Head of Research at the Institute for Innovation & Technology Management. He is engaged in several research projects focusing on power economy. He studied electrical engineering at the ETH Zurich, received his doctorate in 1995 and an executive MBA at the University of Zurich in 2006. He looks back to more than twenty years of industrial experience in different application areas of the energy, communication and information technologies.

**International Advisory Board (IAB)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davor Bošnjak</td>
<td>Head of Intraday Planning and Trading Services</td>
<td>HEP/Croatia</td>
<td><a href="http://www.hep.hr">www.hep.hr</a></td>
</tr>
<tr>
<td>Prof. K. Andreas Friedrich</td>
<td>Head of Electrochemical Energy Technology</td>
<td>DLR/Germany</td>
<td><a href="http://www.DLR.de">www.DLR.de</a></td>
</tr>
<tr>
<td>Prof. Nikos Hatzisargyriu</td>
<td>Chairman &amp; CEO</td>
<td>NTUA/Greece</td>
<td><a href="http://www.ntua.gr">www.ntua.gr</a></td>
</tr>
<tr>
<td>Prof. Christoph Imboden</td>
<td>Board Chair Head of Research</td>
<td>HSLU/Switzerland</td>
<td><a href="http://www.hslu.ch/powereconomy">www.hslu.ch/powereconomy</a></td>
</tr>
<tr>
<td>Thomas Kudela</td>
<td>Lead Regulatory Advisor Regulatory Affairs</td>
<td>Ørsted A/S/Denmark</td>
<td><a href="http://www.orsted.dk">www.orsted.dk</a></td>
</tr>
<tr>
<td>Prof. Carlo Alberto Nucci</td>
<td>Head of Power Systems Laboratory</td>
<td>Uni Bologna/Italy</td>
<td><a href="http://dei.unibo.it/en">dei.unibo.it/en</a></td>
</tr>
<tr>
<td>Dr. Bastian Schwark</td>
<td>Head of Market Operations</td>
<td>Swissgrid AG</td>
<td><a href="http://www.swissgrid.ch">www.swissgrid.ch</a></td>
</tr>
<tr>
<td>Sebastian Ziegler</td>
<td>Energy Economics</td>
<td>50 Hertz/Germany</td>
<td><a href="http://www.50hertz.com">www.50hertz.com</a></td>
</tr>
</tbody>
</table>

**PARTNERS**

- [PACE-energy.eu](http://PACE-energy.eu) - Pathway to a Competitive European Fuel Cell micro-Cogeneration Market
- [QualyGridS.eu](http://QualyGridS.eu) - Standardized qualifying tests of electrolysers for grid services
- [CogenEurope.eu](http://CogenEurope.eu) - The European Association for the Promotion of Cogeneration
- [SERI](http://SERI) - Swiss State Secretariat for Education, Research and Innovation SERI

**Organised by**

- European Fuel Cell Forum
  Obgdarghalde 2
  CH-6043 Lucerne-Adligenswil
  [www.EFCF.com](http://www.EFCF.com)
- UAS HSLU, Power Economy Innovation & Tech. Mgt,
  Technikumstrasse 21
  CH-6048 Horw
  [www.HSLU.ch](http://www.HSLU.ch)

**CONTACT**

+41 44 586 56 44
[Info@GridServiceMarket.com](mailto:Info@GridServiceMarket.com)

**NEW DATE**
19-20 Oct, KKL Lucerne, Switzerland

**Grid Service Market Symposium**
featuring: Grid Flexibility & Business

**Virtual Power Plant (special VPP Panel)**

Joint with the FCH JU project [PACE](http://PACE-energy.eu) a VPP panel is organised. The aim is to explore the potential of Fuel Cell micro-Cogeneration, also in conjunction with other new technologies, to balance the grid and avoid extensions when the units are deployed as a Virtual Power Plant (VPP). Demand response services will be provided, i.e. flexibility via the load profiles are offered to the power markets and local distribution system operators. This allows alternative business models & economic benefits by OPEX reduction.

Interested? YES - Upload an abstract or contact [Info@GridServiceMarket.com](mailto:Info@GridServiceMarket.com)