



ABSTRACT
due by 1 July 2020

2nd **CALL**
for **PAPERS**
& **POSTERS**

Snatch one of the LAST ORAL or
an exclusive POSTER presentation place

GRID SERVICE
MARKET SYMPOSIUM
GSM 2020

NEW 19-20 October
DATE

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



Register with no Risk
In case of no show due to Covid restrictions
Reimbursement of the Fees

www.GridServiceMarket.com

GSM 2020

NEW DATE
KKL Lucerne, 19-20 Oct
Switzerland

Grid Service Market Symposium
featuring: Grid Flexibility & Business

2nd **CALL**
for **PAPERS**
& **POSTERS**
Industry & Science

with special
VPP Panels

Register with no Risk
In case of no show due to Covid restrictions
Reimbursement of the Fees

SCOPE

www.GridServiceMarket.com/Scope

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

www.GridServiceMarket.com/AuthorCenter

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:

1. www.GridServiceMarket.com/Download Abstract template, instructions & samples
2. www.GridServiceMarket.com/Upload ½ -1 page abstract due **by 1 July 2020** (new)
3. **Acceptance** notification will arrive via email to main author by **25 July 2020**
4. www.GridServiceMarket.com/Upload **Paper** (3-10 pages) issued **11 September 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** www.GridServiceMarket.com/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)

Venue www.GridServiceMarket.com/Venue-Lucerne

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 station, 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)

Virtual Power Plant (special VPP Panel)

www.GridServiceMarket.com/VPP

Joint with the FCH JU project  www.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

CHAIR of GSM 2020

Prof. Christoph Imboden

Lucerne University of Applied Sciences 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)

www.GridServiceMarket.com/IAB

| | | | |
|-----------------------------------|---|--------------------------------|--|
| Davor Bošnjak | Head of Intraday Planning and Trading Services | HEP/Croatia | www.hep.hr |
| Prof. K. Andreas Friedrich | Head of Electrochemical Energy Technology | DLR/Germany | www.DLR.de |
| Prof. Nikos Hatziaargyriou | Chairman & CEO | NTUA/Greece | www.ntua.gr |
| Prof. Christoph Imboden | Board Chair Head of Research | HSLU/Switzerland | www.hslu.ch/powerconomy |
| Thomas Kudela | Lead Regulatory Advisor Regulatory Affairs | Ørsted A/S/Denmark | www.orsted.dk |
| Prof. Carlo Alberto Nucci | Head of Power Systems Laboratory | Uni Bologna/Italy | dei.unibo.it/en |
| Dr. Bastian Schwark | Head of Market Operations | Swissgrid AG Switzerland | www.swissgrid.ch |
| Andreas Svendstrup-Bjerre | Virtual Power Plant Architect, Energy Management & Storage | Vestas Wind Systems/Denmark | www.vestas.com |
| Sebastian Ziegler | Energy Economics | 50 Hertz/Gemany | www.50hertz.com |

PARTNERS



PACE-energy.eu
FCH JU project
Pathway to a Competitive
European Fuel Cell micro-
Cogeneration Market



QualyGridS.eu
FCH JU project
Standardized qualifying
tests of electrolyzers
for grid services



CogenEurope.eu
The European
Association for the
Promotion of
Cogeneration



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

State Secretariat for Education,
Research and Innovation SERI

SERI
Swiss State
Secretariat for
Education, Research
and Innovation

Organised by

European Fuel Cell Forum
Obgardihalde 2
CH-6043 Lucerne-Adligenswil
www.EFCF.com

UAS HSLU, Power Economy
Innovation & Tech. Mgt,
Technikumstrasse 21
CH- 6048 Horw
www.HSLU.ch

CONTACT

+41 44 586 56 44
Info@GridServiceMarket.com



GSM VPP Panel has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 700339. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme.



GSM 2020

NEW DATE

19-20 Oct, KKL Lucerne, Switzerland

Grid Service Market Symposium
featuring: Grid Flexibility & Business