INVITATION

GRID SERVICE MARKET SYMPOSIUM

GSM 2021

VIRTUAL & FREE - 3 NOVEMBER

13.00 - 15.30 UTC+1

GRID FLEXIBILITY & BUSINESS

Featuring

- **Upcoming European balancing platforms**
  Keynote 1: Gerard Doorman, Statnett/Norway
- **Distribution grid investments for the energy transition**
  Keynote 2: Fergal McNamara, ESB/Ireland
- **How EV charging becomes truly green & supports grid services**
  Virtual Tour: Andreas Svendstrup-Bjerre, Vestas Wind Systems/Denmark

Networking for

- **System split**
- **Market design**
- **Ancillary services by renewables**
- **Sector coupling**
- **Digitalization**
- **Women in GSM**
- **TSO Swissgrid projects**
- **Adequacy + Renewable resources**
- **+ Club rooms for TSOs, DSOs & open networking**

www.GridServiceMarket.com

GSM 2021

UTC+1 13.00 – 15.30

3 November

VIRTUAL & FREE
Grid Service Market
Symposium featuring grid flexibility & business

GSM SCOPE

www.GridServiceMarket.com/Scope

The electricity market is changing, opening opportunities for more flexibility in generation, storage and consumption. The integration of a large amount of new renewable energy sources poses great challenges for the European electricity grids & markets. Network reinforcement, market harmonization and integration are solutions and challenges for the various players in the electricity industry.

New technologies such as power to X, batteries, demand side response DSR, water electrolysers, fuel cells and others compete or complement each other in terms of technical capabilities and economic performance. The integration of such new technologies and methods, to provide grid services and optimize the use of existing infrastructure, is changing the face of the electricity industry in the long term.

The annual GSM-Symposium aims to outline recent developments in the grid service markets, highlight advancements and challenges in international cooperation, support a rating of the performance, and potential of new, sustainable technologies.

The GSM 2021 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. Experts from the above-mentioned new technologies are addressed and are encouraged to contribute to new technical integrations and propulsive business solutions.

The international audience exchanges on market logic, regulations and harmonization activities, future trends, operations, technology capabilities, and long term business plans and other business related aspects of grid service markets.

EVENT INFORMATION

www.GridServiceMarket.com/Event

The 5th GSM 2021 Symposium will be held exclusively **online** as a **virtual & free highlight event**. Two special guest **keynote speakers** will present top current topics regarding the grid service market industry. It continues with a **virtual tour** of an exciting grid service site. The site owner will address the potential for flexibility services, technical & financial aspects.
Following the presentation, participants will interact with the presenters in a **live "Q&A session"**. Also other **breakout networking spaces** with hot topics will be opened to foster interaction within the community. Participants benefit from a relaxed & comfortable atmosphere to share experiences & meet with international experts.

Program

Schedule of 3 November 2021

UTC+1 12:30 Login + meet colleg — get access with www.GridServiceMarket.com/Access

13:00 Opening by GSM symposium chair Prof. Christoph Imboden

13:10 Keynote 1 **Upcoming European balancing platforms**
Gerard Doorman, Special Advisor, Statnett/Norway

13:50 Keynote 2 **Connecting the dots**
Distribution grid investments to power the energy transition
Fergal McNamara, Regulation & Policy Manager, ESB, Dublin/Ireland

14:30 Virtual Tour **Denmark's first battery supported high power charging station for EVs**
Making EV charging become truly green while supporting grid services with a 20 foot battery container
Andreas Svendstrup-Bjerre, Virtual Power Plant Architect, Vestas Wind Systems

14:50 Breakout networking spaces: Vote for your favourite topics www.GridServiceMarket.com/Vote

1. Keynote 1 Q&A continued Gerard Doorman
2. Keynote 2 Q&A continued Fergal McNamara
3. Virtual tour Q&A continued Andreas Svendstrup-Bjerre
4. TSO Swissgrid Projects Bastian Schwark
5. Ancillary Services by Renewable Energy Thomas Kudela
6. Market design, integrated markets Nikos Hatziargyriou
7. Sector coupling K. Andreas Friedrich
8. Digitalisation Sebastian Ziegler
9. System split 8 Jan - lessons learned Davor Bosnjak
10. Adequacy, renewable resources Carlo Alberto Nucci
11. Women in GSM Ivana Kockar
12. Avoidance of grid extension Tanaka Mbavarira
13. Your proposed topic André Eggli

Relaxed Networking Rooms:

14. Club room for TSOs
15. DSO's bar
16. Open network lounge

15:30 Official closing, breakout networking spaces remain open for discussion & virtual cheers

FEATURED KEYNOTE SPEAKERS

Upcoming European balancing platforms
Handling of intra-zonal constraints & the Statnett approach

Gerard Doorman, *PhD, Special Advisor, Market Development, Statnett, Oslo/Norway* www.STATNETT.no

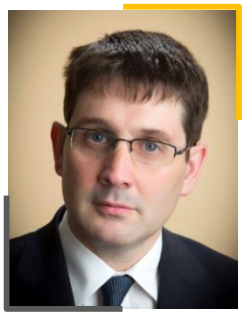
The upcoming European balancing platforms, with main focus on the mFRR platform MARI will be presented. Subsequently the challenges with handling of intra-zonal constraints when TSOs connect to these platforms, and how Statnett intends to address this will be shown and discussed.

Gerard Doorman has 40 years experience in the power industry, having worked in power companies, consultancy, research and teaching. He has covered a broad spectrum of areas, among others grid calculations, hydro power optimization, energy efficiency, demand flexibility, economic optimization and market design in general. He is a former professor at the Norwegian University of Science and Technology with main focus on power markets.

Gerard is presently employed by the Norwegian TSO Statnett as market design expert, working among others with balancing markets and congestion management. He is much involved with market design questions within ENTSO-E, and was convenor of the ENTSO-E project team "Market Design 2030". He is the Norwegian member of CIGRE Study Committee C2, and has previously successfully convened two CIGRE Working Groups under Study Committee C5.

Connecting the dots – Distribution grid investments to power the energy transition

Fergal McNamara, *PhD, Regulation & Policy Manager, ESB, Dublin/Ireland* www.esb.ie



Challenges for distribution grids such as the integration of more decentralised resources, digitalisation including smart metering, charging infrastructure for EVs, and access to local flexibility resources will require a large transformation of the role of the DSOs, so as to enable their contribution. In particular, investment requirements up to the year 2030 and beyond will see a quantum leap. Furthermore, the increasing uptake of prosumers will trigger additional investment needs at distribution level with an entirely new set of network customers, e.g. local storage facilities. Therefore, it is crucial to elaborate future DSO investment needs accordingly and in conjunction with eventual cost structure changes as well as the role and responsibilities of DSOs in future analysis. Finally, security of supply and resilience are critical issues: we are dealing with more severe and more frequent weather events that trigger necessary works and reinforcements and also digital resilience with the advent of more frequent and sophisticated cyber attacks on our power systems.

On the investment side, in particular transmission, 10-year development plans are more commonplace now. A corresponding study has been carried out for the distribution grid. This is timely, as DSOs are now recognized as critical players in the energy transition to 2050 net zero energy consumption.

Fergal McNamara is Manger of Regulation and Policy for ESB, an integrated energy company based in Ireland, and Chairman of the Eurelectric Distribution and Market Facilitation Committee and the Irish National Committee of the World Energy Council. Fergal has had many roles in ESB and in Government where he was Senior Energy Advisor in the Irish Government and Head of Capacity Markets at the UK Government.

FEATURED HOST OF VIRTUAL TOUR

Denmark's first battery supported high power charging station for EVs

Andreas Svendstrup-Bjerre, *Virtual Power Plant Architect, Vestas Wind Systems, Aarhus/Denmark* www.vestas.com

In a virtual visit to a real 20 foot battery storage system, supporting EV charging, renewable production and the grid, you are taken into the future of this grid flexibility technology. In playful interview style, the construction, the advantages and possibilities as well as the limits will be shown. A view on the future development and (financial) potential for grid services will be given. In the subsequent "Breakout networking space", this will be discussed in more depth.

Andreas Svendstrup-Bjerre works in the Innovation department of Vestas Wind Systems focusing on solutions to make the world energy systems CO_2 free. Over the past 13 years Andreas has been working in the European energy sector, making way for the green transition by mobilizing the demand side, identifying flexible capacity & monetizing this flexibility in Denmark, Germany and the UK. He knows the rules and regulations, market development as well as the participating customers' concerns and opportunities.

He has experience with the whole value train from supporting the Key Account Managers to consulting the back-office personnel to invoice customers. He has optimized value offers and identified new value creation potential. This is the base to monetize customers' flexibility ever more efficiently and to build value-creation partnerships.

NO FEES - Free of Charge

get www.GridServiceMarket.com/Access

This year's symposium will be completely **free of charge**,
as a thank you for your continuing support of the **G**rid **S**ervice **M**arket Symposium.

Previously recorded GSM Symposia & power point presentations are available with a membership fee from the **GSM Memberzone** → www.GridServiceMarket.com/MemberZone.

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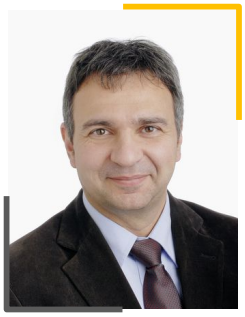

Christoph Imboden is professor for product innovation at the Lucerne University of Applied Sciences and Arts and Head of Research at the Institute for Innovation & Technology Management. He is engaged in several international research projects focusing on power economy.

He received his doctorate in electrical engineering at the ETH Zurich in 1995. After working in different positions in the industry, he started working for HSLU in 2012. Christoph has been the chair of GSM since 2017.

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OUTLOOK

Grid Service Market Symposium
featuring: Grid Flexibility & Business

GSM 2022

Lucerne 4 - 5 July

Switzerland

Upcoming 6th Annual GSM Symposium

The 2-day GSM 2022 symposium will take place next year, **4-5 July 2022**. Once again, it will be hosted at the **KKL in Lucerne, Switzerland** in relation with the Electrolyser & Fuel Cell Forum EFCF www.EFCF.com. Come join us live alongside the beautiful lake Lucerne. The Symposium will also be available virtually as our first ever hybrid event. We can't wait to meet you there!

GSM Library **www.GridServiceMarket.com/Library**

The available contributions and presentation of previous GSM events are made available in the GSM Library. The proceedings and also single contributions are published published within the GSM Communities such as LORY - Lucerne Open Repository, of the generalpurpose open-access repository www.Zenodo.org.

For more information and updates, check out our website, Twitter and Linkedin at:

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EFCF 2022
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6 - 8 July 2022
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Tutors:

Dr. Günther G. Scherer
formerly PSI, Switzerland

MER Dr. Jan Van Herle
EPFL, Switzerland (right)

www.EFCF.com/FCH

Related with **EFCF 2022** 5 - 8 July
15th European SOFC & SOE Forum
Solid Oxide Technologies & Applications
Int. Conference Series with Tutorials & Exhibition est. 1994

PROGRAM

FCH Tutorial: On-Demand or 5 July 2022

www.EFCF.com/FCH

09:30 Registration, welcome refreshments

10:00 **Lecture 1 Welcome & Fundamentals of Electrochemical Energy Conversion**

11.00 **Lecture 2 Characteristics of the important Fuel Cell & Electrolyser Technologies**

11:45 Coffee break

12.00 **Lecture 3 Fuels for fuel cells, fuel processing**

12:45 Lunch break

14:00 **Lecture 4 Applications of Polymer Electrolyte Technologies** such as PEFC, DMFC, H2FC, …

14:45 **Lecture 5 System aspects, applications of Solid Oxide Technologies** such as SOFC, SOE, SOMR

15.30 Coffee break

15:45 **Lecture 6 State-of-the-art, challenges, summary - Summary**

17:00 End of FCH Tutorial, Visit the exhibition of the EFCF

The FCH Tutorial language is English.

Registration, Services & Fees

Both **physical** & **virtual registration** is **available** and **includes**: Complete documentation of the tutorial lectures, exchange with EIS experts & users, admission to the EFCF exhibition, VAT & the **certificate of attendance** with confirmation of **0.5 ECTS credits.** Additionally for onsite participants: Welcome refreshments, business lunch, snacks & drinks and access to the poster session.

On-line Registration : www.EFCF.com/TutReg

Onsite CHF 500 for regular registration

Virtual CHF 220 for regular registration (on-demand & live)

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