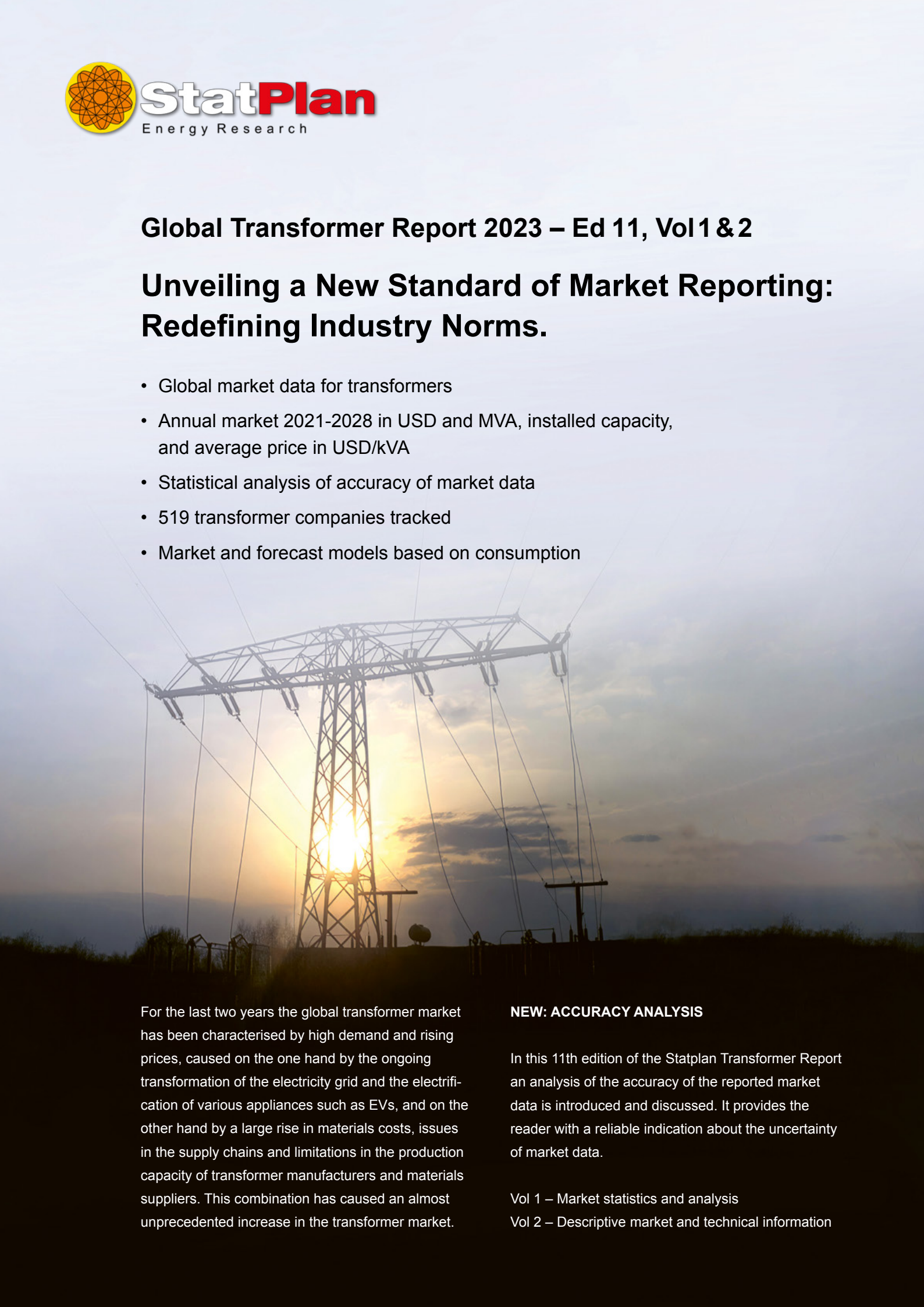


Global Transformer Report 2023 – Ed 11, Vol1 & 2

Unveiling a New Standard of Market Reporting: Redefining Industry Norms.

- Global market data for transformers
- Annual market 2021-2028 in USD and MVA, installed capacity, and average price in USD/kVA
- Statistical analysis of accuracy of market data
- 519 transformer companies tracked
- Market and forecast models based on consumption



For the last two years the global transformer market has been characterised by high demand and rising prices, caused on the one hand by the ongoing transformation of the electricity grid and the electrification of various appliances such as EVs, and on the other hand by a large rise in materials costs, issues in the supply chains and limitations in the production capacity of transformer manufacturers and materials suppliers. This combination has caused an almost unprecedented increase in the transformer market.

NEW: ACCURACY ANALYSIS

In this 11th edition of the Statplan Transformer Report an analysis of the accuracy of the reported market data is introduced and discussed. It provides the reader with a reliable indication about the uncertainty of market data.

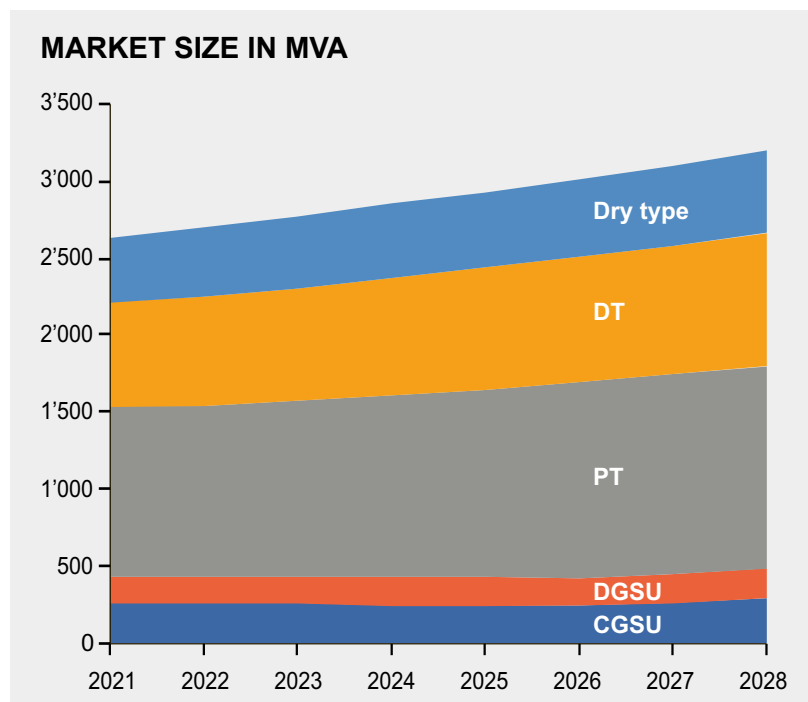
Vol 1 – Market statistics and analysis

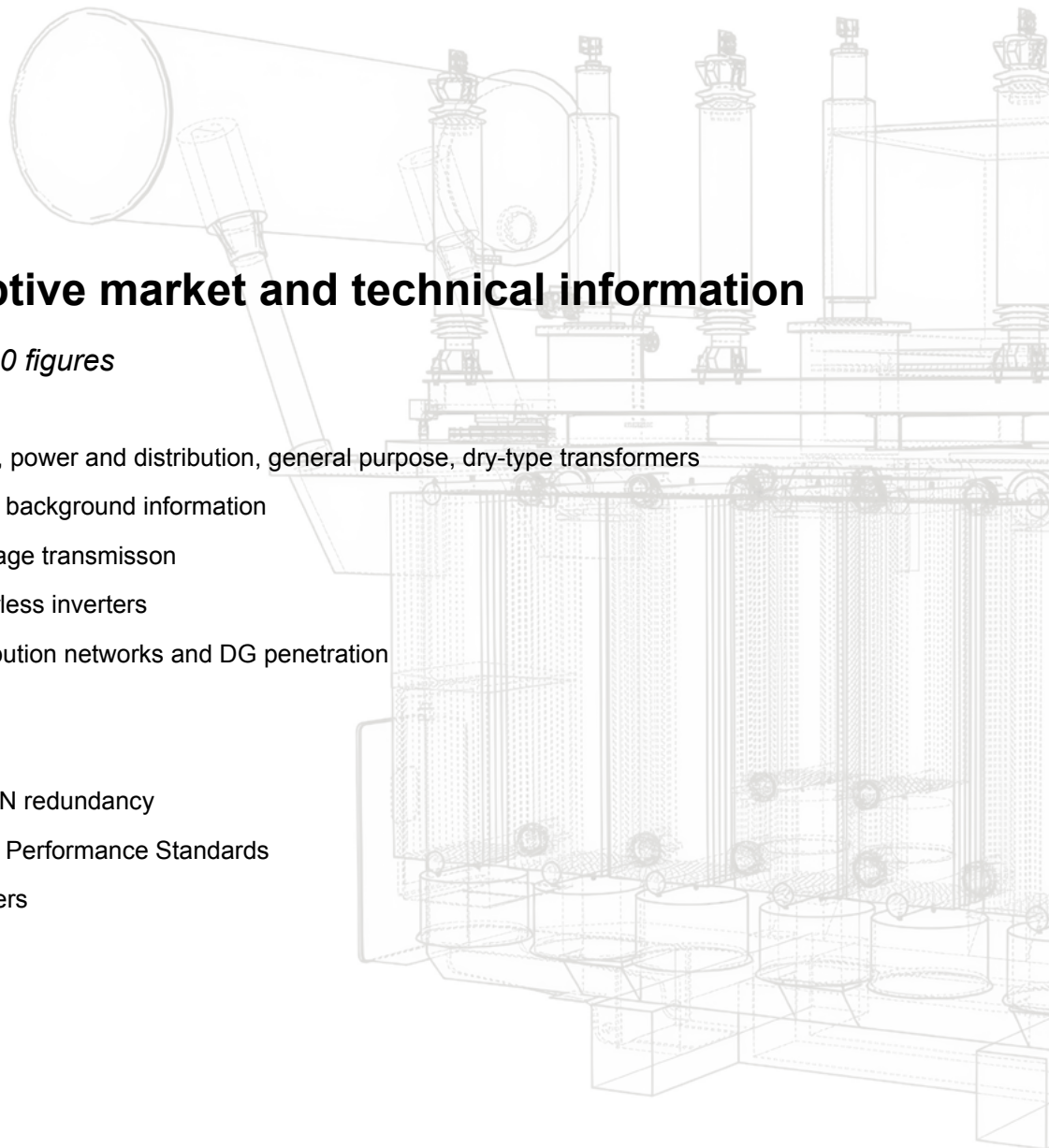
Vol 2 – Descriptive market and technical information

Vol 1 – Market statistics and analysis

248 pages, 164 tables, 37 figures

- Market analysis of transformer production, imports, exports, sales – Power transformers (PT)/ Distribution transformers (DT)/Dry-type transformers (Dry MV and Dry LV)
- Forecast of transformers sales by country in value (\$) and capacity (MVA), 2021 to 2028
- Sales by transformer category – Central GSU (generator step-up transformer)/Network PT/ Distributed GSU/Network DT/Dry-type
- Market shares of manufacturers of transformers with sales \geq \$5 million
- Transformer market commentary for major countries
- Central and Distributed power generation (MW) from 1990 to 2030
- Central GSU and Distributed GSU transformer capacity (MVA) from 1990 to 2030
- The installed base by country – Central GSU/Network PT/Distributed GSU/Network DT
- Numbers of DTs by utility-owned/industry-owned by country
- International trade 2020 and 2021
- Top 40 importers and exporters by kVA capacity and voltage – \$ sales – PT/DT/Dry MV/Dry LV
- Prices and factors determining transformer prices – consumption, materials price trends, inflation
- Production capacity and utilisation in major countries
- Profiles of major global and regional manufacturers – several hundred companies listed
- Network layout, outlines of the different distribution network systems of Europe and North America and global practices





Vol 2 – Descriptive market and technical information

115 pages, 13 tables, 50 figures

- Transformer types - GSU, power and distribution, general purpose, dry-type transformers
- Low voltage transformers background information
- Development of high voltage transmission
- Solar PV and transformerless inverters
- Hosting capacity of distribution networks and DG penetration
- Smart transformers
- Gas to Wire (GTW)
- N+1 standard, N+2 and 2N redundancy
- MEPS - Minimum Energy Performance Standards
- High efficiency transformers
- The supply chain
- Logistics
- Electrification

MARKET METHODOLOGY

New models used for:

1. Forecasting the transformer market (\$ and MVA)
The demand forecast model has two stages. Sales in the base year are disaggregated into cost components. Sales of each component are forecast at constant values based on the power consumption trend and projected to nominal market values based on component forecasts.

2. The installed transformer base (MVA) capacity is calculated with four separate models.

- DT network capacity from GWh consumption and average load, calibrated by the network.
- PT network capacity from transmission utility data factored by industrial and commercial share.
- Central and distributed generating capacity are calculated separately.

3. Transformer capacity (MVA) for distributed and central generation (MVA) is calculated in four sub-groups; renewables and non-renewable, central and distributed generation. Installed generating capacity (MW) from 1990 to 2030 was disaggregated into 29 sub-groups and factors applied to calculate transformer capacity.

4. Determination of market size The preferred method of estimating the market is by listing the companies producing transformers in each country and calculating the market as “production + imports – exports”. 519 companies are tracked in 57 countries. Detailed company data is not available in 27 countries and demand is estimated from the growth in MVA capacity multiplied by \$/kVA.

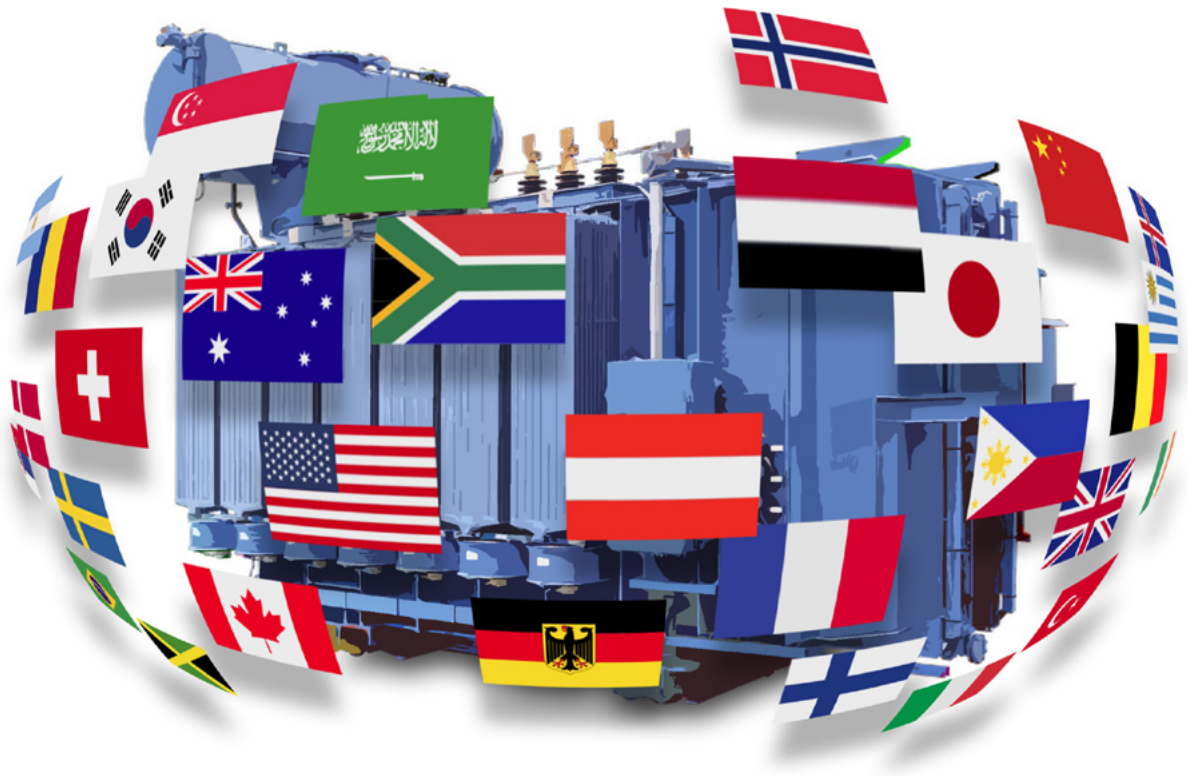
STATISTICAL ANALYSIS OF ACCURACY OF MARKET DATA

The statistical analysis of accuracy and error is carried out with statistical procedures employed as a matter of course by research scientists and engineers.

- Each of many hundred independent variables (production, imports, exports, MVA capacity growth, price in \$/kVA) is subject to one or more sources of error and assessed independently.

- The data is then subjected to statistical analysis of propagation of error with standard statistical formulae.
- This analysis is consolidated through stages to achieve the final calculation of the accuracy.

Detailed descriptions of the market methodology and the accuracy analysis are provided in the report.



The author: Euan Blauvelt has over 45 years' experience in market research in the electrical industry in Asia and Europe. After being deputy chairman of the Survey Research Group and partner in ABS Energy Research, he founded StatPlan Energy Research in the year 2010, specialising in the electrical sector and providing market reports, global databases and forecasts for electricity supply, T&D, the transformer, energy metering and cable markets. He has been responsible for each of the 11 editions of the StatPlan Transformer Report.

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