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## Press release

### Innovative 'compactLine' overhead high-voltage line technology becomes a reality

- After three years working with the European transmission system operator 50Hertz and other partners on its development, SPIE has completed the 'compactLine' pilot line: an innovative - technology for 400 kV overhead high-voltage lines.
- The pilot line went live at the end of August, marking the start of a monitoring programme which will collect information about its operation for at least the next year.
- Ralf Schlosser, Head of the Overhead Line Construction business unit at SPIE Deutschland & Zentraleuropa, said: *'Along with our partners, we are extremely proud of completing another alternative for 400 kV overhead high voltage lines and delighted to test the pilot line over the coming months.'*

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**Jessen, September 25<sup>th</sup>, 2018** – *The pilot line boasting the innovative ‘compactLine’ overhead high-voltage line technology went live at the end of August. This moves the research project led by 50Hertz, SPIE and other partners into the next phase. The goals of the new 400 kV overhead line are to support the pressing need for network expansion by using the new design on existing stretches, to improve public acceptance and, in so doing, to shorten long approval processes.*

50Hertz commissioned SPIE to construct the pilot line in the eastern part of Saxony-Anhalt in Jessen (Elster) in October 2017. The line is 1.8 km long and consists of five towers – three load carrying towers and two anchor towers. The line was integrated into the grid between an existing aerial line and the Jessen transformer station, the place where SPIE had previously completed the expansion of two 400 kV switch panels. Now that it has successfully gone live, ‘compactLine’ is being tested in operation as part of a monitoring programme. Valuable information about the operation of the new 400 kV line will be gathered during the programme, which will run for at least a year.

From 2013 to 2016, SPIE conducted research on the development and testing of compactLine as part of the research consortium founded by 50Hertz. The research project was supported by the Federal Ministry for Economic Affairs and Energy. *‘There are no other comparable high voltage overhead line systems anywhere in the world with a sufficiently compact design in terms of both height and width. We are delighted to have incorporated the results of our intensive research into the compact pilot line,’* says Wolfgang Marthen, Manager at SPIE Deutschland & Zentraleuropa’s research laboratory VTZ.

Providing network operators with increased transmission capacity while taking up comparatively minimal space posed a considerable challenge when it came to developing the new overhead high-voltage line. 50Hertz outlined technical guidelines in order to integrate the compact overhead technology into existing systems and structures. Existing 220 kV lines were to be replaced by 400 kV lines without exceeding the width and height of the 220 kV corridors. *‘What is special about compactLine is that it integrates better into the landscape because it is lower and more compact than conventional overhead line systems. You could even say that the compactLine is spectacularly unspectacular,’* continues Wolfgang Marthen.

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*'In addition to the technical requirements, from the outset we also paid heed to the participation of the general public and stakeholders,' emphasises Dr Frank Golletz, Technical Managing Director of 50Hertz. 'Information from six workshops and a representative survey were incorporated into the development, and the dialogue about the tower height and tower design was very well received by the participants.'* The key to reducing tower height and route width is to significantly reduce cable sag. By using additional high tension steel suspension cables, SPIE was able to reduce cable sag and implement 50Hertz's specifications into the newly developed compactLine. *'Even though the technology used in the steel suspension cable is new to overhead line construction, it has been tested and is currently in use in cableways and bridge technology,'* explains Ralf Schlosser, Head of the Overhead Line- Construction Business Unit at SPIE. *'Along with our partners, we are extremely proud of completing another alternative for 400 kV overhead lines and we look forward to testing the pilot line in operation over the coming months.'*

#### **About SPIE Deutschland & Zentraleuropa**

SPIE Deutschland & Zentraleuropa, a subsidiary of the SPIE group, the independent European leader in multi-technical services in the areas of energy and communications, is the leading multi-technical service provider for buildings, facilities and infrastructure in Germany, Austria, Poland, Czech Republic, Slovakia and Hungary. Its service range encompasses technical facility management, energy-efficiency solutions, technical services for the transmission and distribution of energy and for industrial clients as well as in the areas of electrical and security technology, HVAC technology and information and communications technology. SPIE Deutschland & Zentraleuropa has more than 14,500 employees in over 200 locations.

With more than 46,500 employees and a strong local presence, SPIE achieved in 2017 consolidated revenues of €6.1 billion and consolidated EBITA of €388 million.

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