SIEMENS

Press

Munich, July 28, 2020

Siemens' lightning atlas: Speyer is Germany's "lightning capital" in 2019 – a year low in lightning activity

- **Siemens' lightning information service detected about 329,000 lightning strikes in Germany in 2019 – down 26 percent on 2018**
- **Germany's "lightning capital" in 2019 was the city of Speyer in Rhineland-Palatinate**
- **The fewest strikes were recorded in three Bavarian cities: Hof, Bayreuth and Schweinfurt**
- **Bavaria was the German state with the most lightning activity in 2019, Potsdam was the leader among state capitals**
- **The most lightning strikes in 2019 were recorded on June 12**
- **At European level, Trieste and surrounding area tops the ranking in Siemens' 2019 lightning atlas**

The city of Speyer in the state of Rheinland-Palatinate was Germany's "lightning capital" in 2019. Siemens' lightning information service BLIDS (which stands for Blitz-Informationsdienst von Siemens) detected just under 3.1 lightning strikes per square kilometer in Speyer in 2019. The cities of Rostock on the Baltic coast and Lübeck in the state of Schleswig-Holstein took second and third places with 2.6 and 2.5 ground flashes per square kilometer, respectively. Germany's lowest density of lightning strikes was recorded in the Bavarian cities of Hof and Bayreuth, where considerably fewer than 0.1 lightning strikes per square kilometer were recorded. The Bavarian city of Schweinfurt, which was No. 1 in Siemens' 2018 lightning atlas, was also at the bottom of the list, recording 0.1 lightning strikes per square kilometer

Siemens AG
Communications
Head: Clarissa Haller

Werner-von-Siemens-Strasse 1
80333 Munich
Germany

in 2019. With lightning striking just under 2.3 times per square kilometer, Potsdam led the country's list of state capitals in 2019, followed by the neighboring city of Berlin (rounded off: 2.2). Berlin is also the German state registering the highest lightning density, while Bavaria recorded the highest number of measured ground flashes in 2019. Overall, at 329,000, BLIDS recorded its lowest number of lightning strikes, around 26 percent fewer than in 2018.

"Germany, Central and Western Europe did not see much lightning activity in 2019 at all. We recorded a low number of thunderstorms and significantly fewer ground flashes," said Stephan Thern, head of Siemens' lightning information service. "It was simply too dry, and thunderstorms require heat and moisture. In 2019, there were 13 days with more than 10,000 lightning strikes in Germany. With a relatively small urban area such as that of Speyer, a few thunderstorms are enough for the final analysis to show a high lightning density," the expert continued. "For the two northern cities in second and third place, Rostock and Lübeck, the proximity to the Baltic Sea probably plays a role."

In 2019, the main months for thunderstorm activity were June and July. The highest number of strikes – 24,245 – was recorded on June 12, 2019. Mecklenburg-Western Pomerania and Brandenburg were the German states most affected, followed by Saxony. BLIDS detected the highest number of measured ground flashes in a single German state – just under 8,500 – in Mecklenburg-Western Pomerania on June 12, followed by Bavaria with 6,400 on July 10. Among the German states, Berlin took a clear lead with 2.2 flashes per square kilometer, followed by Mecklenburg-Western Pomerania with a flash density of 1.4, while the city states of Hamburg and Bremen brought up the rear with only 0.5 flashes per square kilometer, respectively. Topping the list of state capitals was Potsdam (2.3), followed by Berlin and Munich (1.2). Saarbrücken (0.4) and Erfurt (fewer than 0.5) were the state capitals with the lowest number of lightning strikes in 2019.

An average of 0.9 lightning strikes per kilometer were registered in Germany in 2019. In 2018, the figure was still 1.3. Compared to its neighbors, the country is in the middle of the pack. Measured lightning densities across Europe range from 0.03 (Ireland and Scotland) to highs of 8-10 in and around Trieste, a city in the tri-border region of Italy, Slovenia and Croatia. In 2019, the countries bordering the Adriatic

Sea and the Italian Riviera were among the continent's most active thunderstorm regions. Various lightning information service providers in the individual countries contribute to the European results. "The provision of a homogeneous, European measurement network – despite standards that differ from country to country – is the result of the excellent cooperation and coordination of the various weather and measurement services across Europe," said Stephan Thern. "This network ensures that the measurement data provided to customers and users all has the same quality."

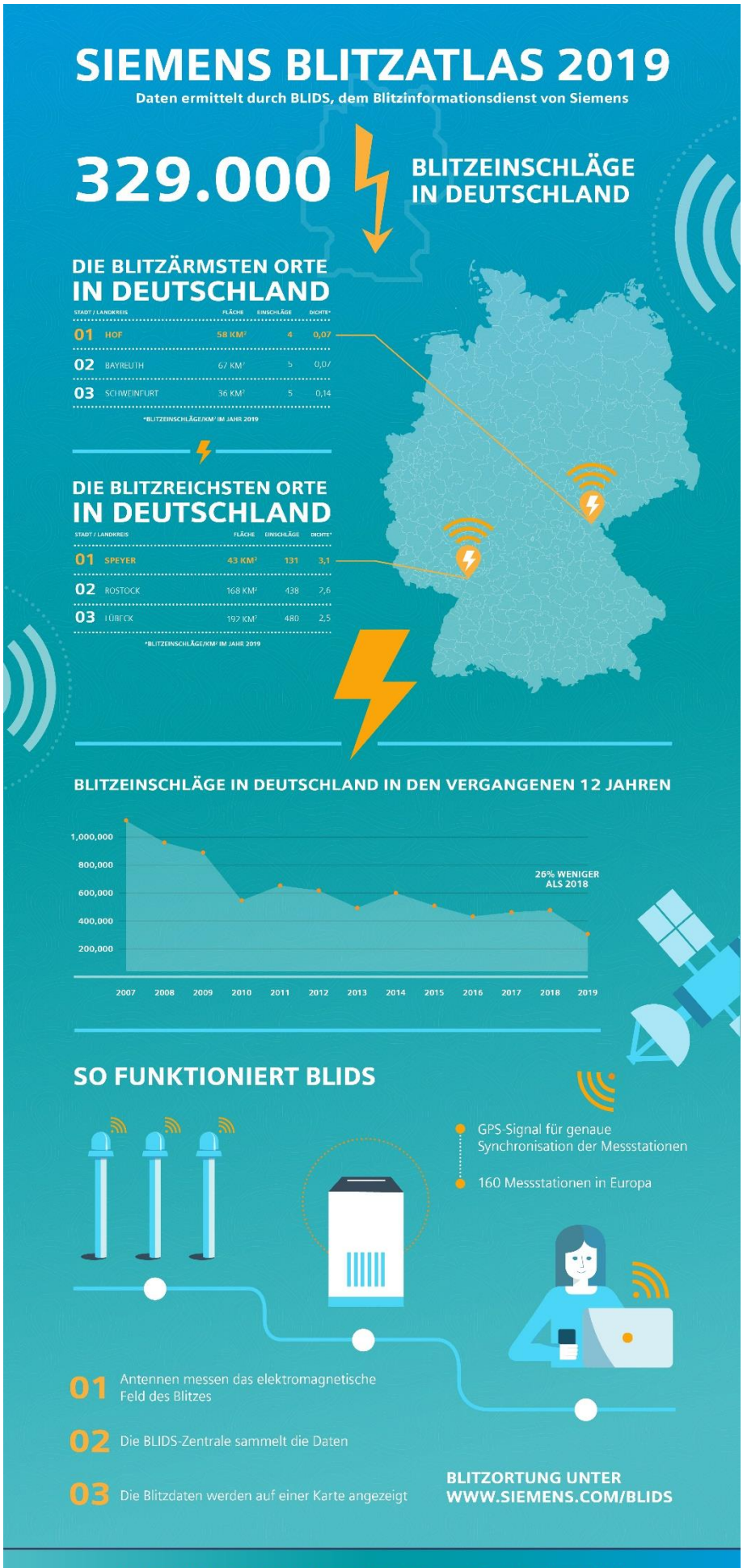
Siemens' lightning information service uses around 160 connected measurement stations in Europe and supports the measurement network in Germany, Switzerland, the United Kingdom, the Benelux, the Czech Republic, Slovakia and Hungary. Due to the system's precise measurement technology, its sensors can be set up without difficulty at intervals of 350 kilometers, significantly reducing the cost of installation, operation and maintenance. "With the latest software, we can detect – to an accuracy of 50 meters – where exactly lightning has just struck," said Stephan Thern.

Since 1991, Siemens has been analyzing detected lightning strikes and immediately sending warning notices to its thunderstorm alarm customers – to protect people, technology and infrastructure. Customers of Siemens' lightning information service are meteorological services, insurance providers, industrial companies across all sectors and power grid operators, (sport) facilities and, more recently, fire departments. "BLIDS helps to determine whether a strike of lightning has caused damage or a breakdown," said Stephan Thern. Lightning strikes cause a great deal of damage to electrical appliances. The highly sensitive electronics usually found in televisions, satellite receivers, washing machines and industrial control systems, for example, can even be damaged if lighting strikes a great distance away. Having proof of this results in a cost saving for consumers and end users since lightning strikes are usually covered by insurance.

Thanks to advancing digitalization and the rapid increase in computing and storage capacities, BLIDS enables data to be transmitted more precisely and at an increasingly faster rate – now less than ten seconds after a lightning strike. The

lightning information service also provides cloud-based solutions to enable customers to have lightning information on their computers and mobile devices.

Private individuals and customers can use the BLIDS-Spion (“BLIDS Spy”) tool free of charge at www.blids.de to quickly obtain information regarding lightning strikes.


SIEMENS BLITZATLAS 2019
Daten ermittelt durch BLIDS, dem Blitzinformationsdienst von Siemens
329.000
BLITZEINSCHLÄGE IN DEUTSCHLAND
DIE BLITZÄRMSTEN ORTE IN DEUTSCHLAND
STADT / LANDKREIS FLÄCHE EINSCHLÄGE DICHTE*
01 HOF 58 KM² 4 0,07
02 BAYREUTH 67 KM² 5 0,07
03 SCHWEINFURT 36 KM² 5 0,14
*BLITZEINSCHLÄGE/KM² IM JAHR 2019
DIE BLITZREICHSTEN ORTE IN DEUTSCHLAND
STADT / LANDKREIS FLÄCHE EINSCHLÄGE DICHTE*
01 SPEYER 43 KM² 131 3,1
02 ROSTOCK 168 KM² 438 2,6
03 LÜBECK 192 KM² 480 2,5
*BLITZEINSCHLÄGE/KM² IM JAHR 2019
BLITZEINSCHLÄGE IN DEUTSCHLAND IN DEN VERGANGENEN 12 JAHREN
1,000,000
800,000
600,000
400,000
200,000
26% WENIGER ALS 2018
2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
SO FUNKTIONIERT BLIDS
GPS-Signal für genaue Synchronisation der Messstationen
160 Messstationen in Europa
01 Antennen messen das elektromagnetische Feld des Blitzes
02 Die BLIDS-Zentrale sammelt die Daten
03 Die Blitzdaten werden auf einer Karte angezeigt
BLITZORTUNG UNTER WWW.SIEMENS.COM/BLIDS

This press release and infographics are available at www.siemens.com/presse/blids (German only)

Further information on BLIDS are available at www.siemens.com/blids (German only)

Contacts for journalists

Bernhard Lott
Phone: +49 174-1560693; e-mail: bernhard.lott@siemens.com
Julia Wiemer
Phone: +49 173-5901277; e-mail: julia.wiemer@siemens.com

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