**"Tram equipped with mobile climate station by Thies Clima - measure and improve air quality together - get on board!"**

As a Smart City model city, Mannheim is working on concepts and implementations of a sustainable and liveable city of tomorrow, carried out by Smart City Mannheim GmbH. A close-meshed climate measurement network for the collection of environmental data plays an important role in this. Spatially and temporally resolved weather data provide an important aspect for analysing and evaluating the microclimate of a city. The aim is to systematically record influences on the urban climate and derive measures to improve air quality in Mannheim, such as the impact of the "green" track bed.



BU: Tram equipped with mobile climate station by Thies Clima

A large number of stationary sensors but also a number of mobile sensors are used to collect the data. A novel approach is to use trams as mobile platforms to collect environmental data. Last month, lines 1 and 3 of the Mannheim trams were equipped with sensors from the company Thies Clima and put into operation. The system consists of the compact weather station Clima Sensor US on the one hand and the ground infrared temperature sensor and fine dust sensor on the other. The sensor measures a variety of weather data, including air temperature, relative humidity, directional brightness, precipitation intensity, precipitation type, barometric pressure and wind speed and direction. In addition, calculated values such as dew point and heat index are output.

With the help of a built-in GPS sensor and a magnetic compass, the current travel speed and direction of the tram is determined. In this way, the wind speed measured by the Clima Sensor US is corrected for the movement of the tram and output as the actual wind speed and direction at the current location of the tram, if necessary during the journey (true wind).

The tram is also equipped with four ground infrared temperature sensors, which, depending on the ground surface such as gravel or grass, measures the strongly varying surface temperature along the track bed as well as the colour track temperature of the neighbouring streets. In addition, a fine dust sensor from Thies is installed to analyse the air quality. Thanks to GPS location recording, all data along the track network can be spatially allocated and documented with second-by-second accuracy. The data is uploaded to the cloud once a minute and flows into the Smart City Mannheim GmbH data platform. Together with other measured values and climate data, the data enables efficient monitoring, analysis and forecasting of the city climate.

With its own sensors optimised for mobile applications, Thies Clima offers solutions for the increasing demand for data-based environmental management in urban agglomerations. Contact us, we will be happy to advise you!

SHORT VERSION LINKEDIN:

Tram equipped with mobile climate station from Thies Clima - measure and improve air quality together - get on board! As a Smart City model city, Mannheim is working on concepts and implementations of a sustainable and liveable city of tomorrow, carried out by Smart City Mannheim GmbH. One innovative approach is the use of trams as mobile measuring stations for weather and environmental data. The trams are equipped with Thies Clima sensors to record weather data such as air temperature, humidity, wind speed and direction as well as air quality. GPS and electronic magnetic compass allow more precise data to be collected for the current location. With its own sensors optimised for mobile applications, Thies Clima offers solutions for the growing need for data-based environmental management in urban areas. We are here for you! Contact us now for your city projects.

**Footer Adolf Thies GmbH & Co. KG**

Thies Clima is a leading supplier of high-quality measuring instruments and systems for climate and environmental measurement technology. We help customers around the world to make accurate and reliable measurements in the fields of climate, air quality, radiation and weather.. We offer innovative meteorology and environmental measurement technology for applications in the field of renewable energies (wind, solar, biomass), industry, tourism, transport infrastructure and vehicles (land, water, air), agriculture, building control systems, laboratories, institutes for meteorology, climatology, hydrology... Thies Clima, as the manufacturer of the certified "First Class" anemometer, sets the standard for wind measurement technology worldwide. Our comprehensive range includes a wide range of sensors, data loggers, software/apps and accessories. We pride ourselves on offering our customers not only high quality products, but also comprehensive technical support and advice.

Area of expertise: Anemometry for Wind Assessment and Wind Turbine Control, Sensors for Precipitation, Temperature, Humidity, Solar Radiation, Barometric Pressure; Climate Sensors, Data Loggers. Our sensors and systems meet the guidelines of the World Meteorological Organization (WMO) in Geneva, Switzerland, and are globally renowned among international agencies, corporations, universities and weather services. Our goal is to work with our customers to develop solutions that meet their unique needs and help solve key climate and environmental challenges. Contact us to learn more!

#MeteorologicaIInstruments #Weatherstations #ClimateMeasurement #EnvironmentalMeasurement #Anemometer #HygroThermoBaroTransmitter #Humidity #Temperature #Windspeed #Rain #Precision #Reliability #Sensors #Dataloggers #sustainability #weatherdata #airquality #radiationmeasurement #climateresearch #Environmentalprotection #Measurementinstruments #ThiesClima

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