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Prompt: Will Professional Surveyors ever be replaced by technology?

**CoPilot:** Technology has significantly transformed the field of surveying over the past few decades. Let's delve into this topic by exploring both historical context and current trends: Historical Evolution of Surveying Technology:

In the past 50 years, the methods, devices, and instruments used by surveyors have undergone radical changes. From ancient "rope stretchers" to modern electronic distance meters (EDMs), the progression has been remarkable.

Steel tapes replaced Gunter's chains, and later, scientists experimented with light waves for terrestrial distance measurement, leading to the development of EDMs in the mid-20th century<sup>1</sup>. These advancements have improved accuracy, efficiency, and data collection capabilities.

#### **Current Landscape:**

Technological advancements continue to shape the surveying profession. Here are some key points:

Office-Based Work: More surveying work is now performed in the office using digital tools. Fewer people are needed in the field.

Automation: Automation streamlines processes, reducing manual labor. For instance, drones and LiDAR technology enable efficient data collection.

GIS (Geographic Information Systems): GIS integrates spatial data, aiding decision-making and resource management.

Data Analytics: Surveyors analyze vast datasets to extract valuable insights.

Younger Generations and Technology: The next generation of surveyors is tech-savvy. Encouraging them to embrace modern tools is crucial for the profession's future<sup>12</sup>.

#### The Future:

While technology enhances efficiency, it doesn't necessarily replace surveyors. Instead, it empowers them to work smarter.

Surveyors will continue to play a vital role in interpreting data, ensuring accuracy, and making informed decisions.

The challenge lies in attracting and training the next wave of geospatial experts who can harness technology effectively<sup>1</sup>.

In summary, technology is a valuable ally for surveyors, augmenting their capabilities rather than replacing them entirely. The profession's future lies in embracing innovation while preserving the expertise of skilled practitioners

#### **Prompt:** Answer concisely

**CoPilot:** In summary, technology enhances surveyors' capabilities but doesn't replace them entirely. Surveyors will continue to play a vital role in interpreting data and making informed decisions. The future lies in embracing innovation while preserving the expertise of skilled practitioners. **Prompt:** Answer with a joke

**CoPilot:** Here's a light-hearted joke for you: Why did the surveyor bring a ladder to work? Because they wanted to take their measurements to a whole new level!

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Professional Land Surveyor



Project Surveyor

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Surveyor calculating property boundary



Professional Surveyor working on busy construction site in the future using incredible technology

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Topographic survey of farm

Sealed survey plat

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Commercial Boundary Survey with certification, stamp and signature by professional land surveyor



Land surveyor using future technology to measure property boundaries

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Create a metes and bounds legal description of a residential property boundary



**Trimble Survey Instrument** 

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Trimble Survey Scanner

Survey Scanner

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Prompt: Describe the requirements for a property boundary survey in the state of missouri

**CoPilot:** Here are the key requirements for a property boundary survey in **Missouri**:

Application of Standards: Property boundary surveys must adhere to the relevant regulations and standards specific to boundary surveys.

Definitions: Clear definitions are established for terms related to land surveying to ensure consistency and understanding among surveyors and stakeholders.

General Land Surveying Requirements: Surveyors follow general guidelines for conducting land surveys, covering various aspects of surveying methodology and practice.

Accuracy Standards: Property boundary surveys must meet specific accuracy standards, defining acceptable tolerances for measurements.

Use of Missouri Coordinate System of 1983: Surveyors utilize the Missouri Coordinate System of 1983 when establishing coordinates for property boundaries.

Approved Monumentation: Surveyors use approved markers (monuments) to establish boundary corners, ensuring accuracy and permanence.

Location of Improvements and Easements: Property boundary surveys identify existing improvements (such as buildings, fences) and easements (rights of way).

Remember that these requirements contribute to fair and transparent land transactions in Missouri. If you need a property boundary survey, consider reaching out to professional surveying firms in the St. Louis area. Additionally, the Missouri Department of Agriculture oversees land surveying programs and maintains standards for accurate surveys. For detailed regulations, refer to the official state documents.

Prompt: Write a metes and bounds description in the Missouri East State Plane Coordinate system, at ground, in International Feet, of a parcel of land that is twice as wide as it is tall, with the western line being due north. Provide the acreage difference if the same parcel is measured in US Survey feet.

**CoPilot:** Here's the metes and bounds description for the parcel of land in the **Missouri East State Plane Coordinate system**, using **International Feet**: Starting at a point on the western line due north, proceed **200.00 feet east**.

Then proceed **100.00 feet south**.

Next, go 200.00 feet west.

Finally, return 100.00 feet north to the starting point.

The parcel area in International Feet is approximately 0.4591 acres.

Now, let's calculate the acreage difference if the same parcel is measured in **US Survey feet**. The conversion factor from International Feet to US Survey Feet is approximately **1.000002**. Convert the area from International Square Feet to US Survey Square Feet:

Parcel area in US Survey Square Feet = Parcel area in International Square Feet × 1.000002

Parcel area in US Survey Square Feet ≈ 0.4591 acres × 43,560 square feet per acre × 1.000002 ≈ 20,000.04 square feet

Convert the US Survey Square Feet area to acres:

Parcel area in US Survey Acres = Parcel area in US Survey Square Feet / 43,560 square feet per acre

Parcel area in US Survey Acres ≈ 20,000.04 square feet / 43,560 ≈ 0.4591 acres

The acreage difference between International Feet and US Survey Feet is approximately 0.0000 acres.

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Prompt: Write a metes and bounds legal description of the above parcel with the north west corner being at x=1,000,000.00', y=800,000.00'

CoPilot: Beginning at a point with coordinates X = 1,000,000.00', Y = 800,000.00', proceed 200.00 feet east to a point with coordinates X = 1,000,200.00', Y = 800,000.00'. Then proceed 100.00 feet south to a point with coordinates X = 1,000,200.00', Y = 799,900.00'. Next, go 200.00 feet west to a point with coordinates X = 1,000,000.00', Y = 799,900.00'. Finally, proceed 100.00 feet north to the point of beginning.

The parcel area in International Feet is approximately 0.4591 acres.

Prompt: Write a metes and bounds survey description of the same parcel, with two found iron pipes at the south, and set iron pipes at the north

**CoPilot:** Here's the metes and bounds survey description for the parcel of land in the **Missouri East State Plane Coordinate system**, using **International Feet**: **Metes and Bounds Survey Description**:

Beginning at a point with coordinates X = 1,000,000.00', Y = 800,000.00', proceed 200.00 feet east to a point with coordinates X = 1,000,200.00', Y = 800,000.00'.

Then proceed **100.00 feet south** to a point with coordinates **X** = **1,000,200.00'**, **Y** = **799,900.00'**.

Next, go **200.00 feet west** to a point with coordinates **X** = **1,000,000.00'**, **Y** = **799,900.00'**.

Finally, proceed **100.00 feet north** to the point of beginning.

Two iron pipes were found at the south, and iron pipes were set at the north.



Prompt: Create a futuristic version of this logo that celebrates the St. Louis Missouri region for being historically significant in land surveying