Is Your GIS Ready For Grid Modernization?

A State-of-the Industry Report

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Is Your GIS Ready For Grid Modernization?

Survey Overview

In the first quarter of 2019, Energy Acuity conducted a grid modernization readiness survey of electric utilities. Responses were received from 122 participants. The majority of responses were from the United States. Almost 50% of responses came from midsize companies. The remaining were evenly split between large and very large companies. This varied sample size across the utility industry provides a useful perspective on industry GIS practices.

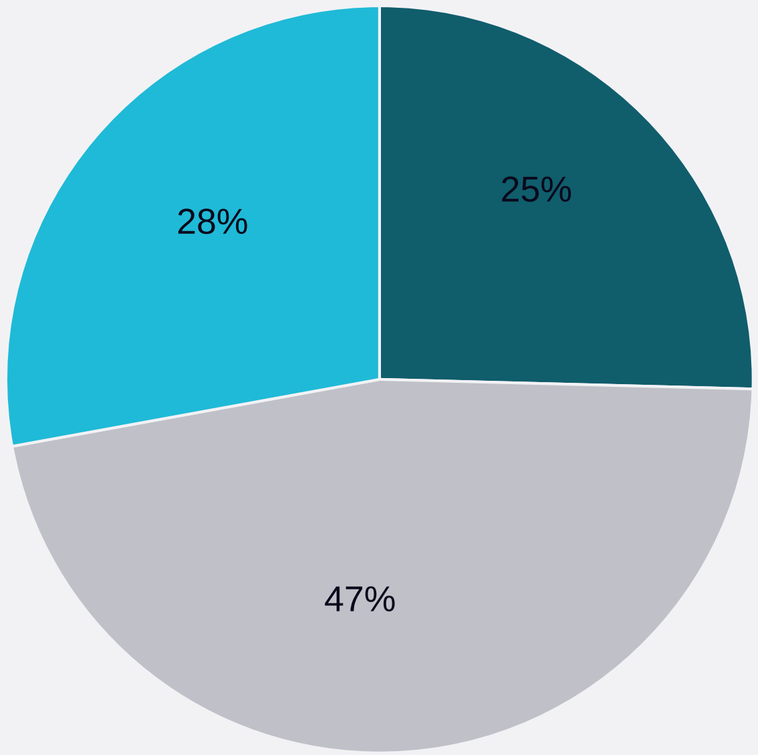
Key findings from respondents include:

- 98% of respondents see GIS as important to their utility. 83% report their GIS use has transcended departmental mapping and 40% identify GIS as absolutely critical to the organization.
- Over 85% of utilities use GIS in the field. However, less than 20% make use of complete viewing and editing capability.
- While 23% of respondents report high confidence in their GIS data, most reported significant error rates.
- Less than 10% of utilities report a lack of management support for GIS. Yet, they report budget and staffing constraints dominate their readiness to leverage GIS as a foundation for grid modernization.
- 40% of respondents design within GIS. Yet nearly 35% of utilities redraft designs into the GIS either from CAD or from paper.

Survey Methodology

Each response was scored based on values for each response choice and the importance to overall grid modernization readiness of each question.

Respondent Profile



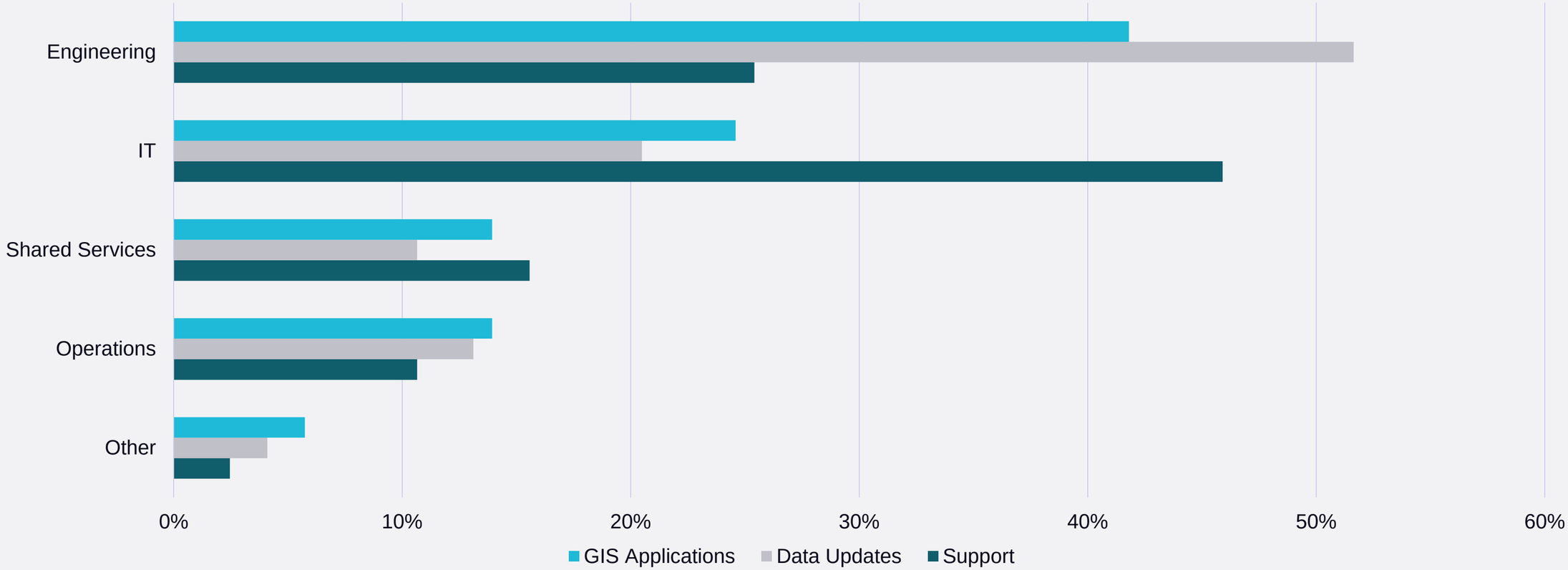
What best describes your utility company?

- More than 2 million customers
- Less than 100,000 customers
- 100,000 - 2 million customers

Responses from 122 utilities large and small contribute to the findings in this grid modernization readiness study.

Company Responsibility

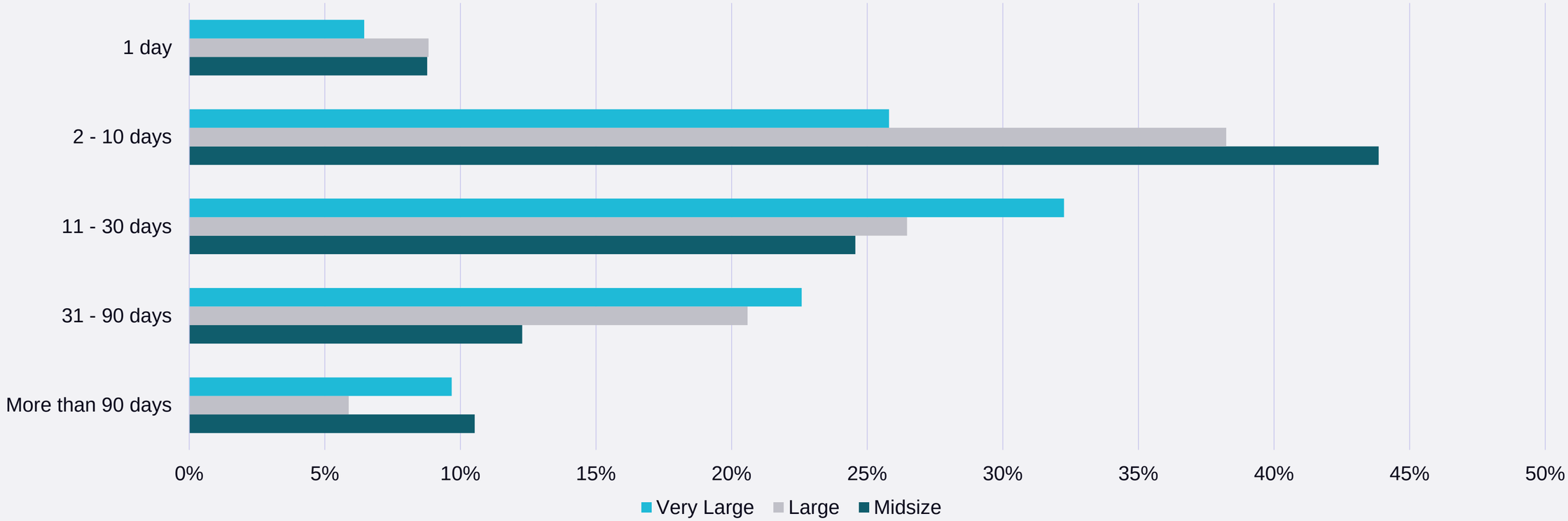
Which group within your company is responsible for the following aspects of your GIS?



Most respondents rely on their engineering group for applications and data updates, and on IT departments for support.

Lag Time

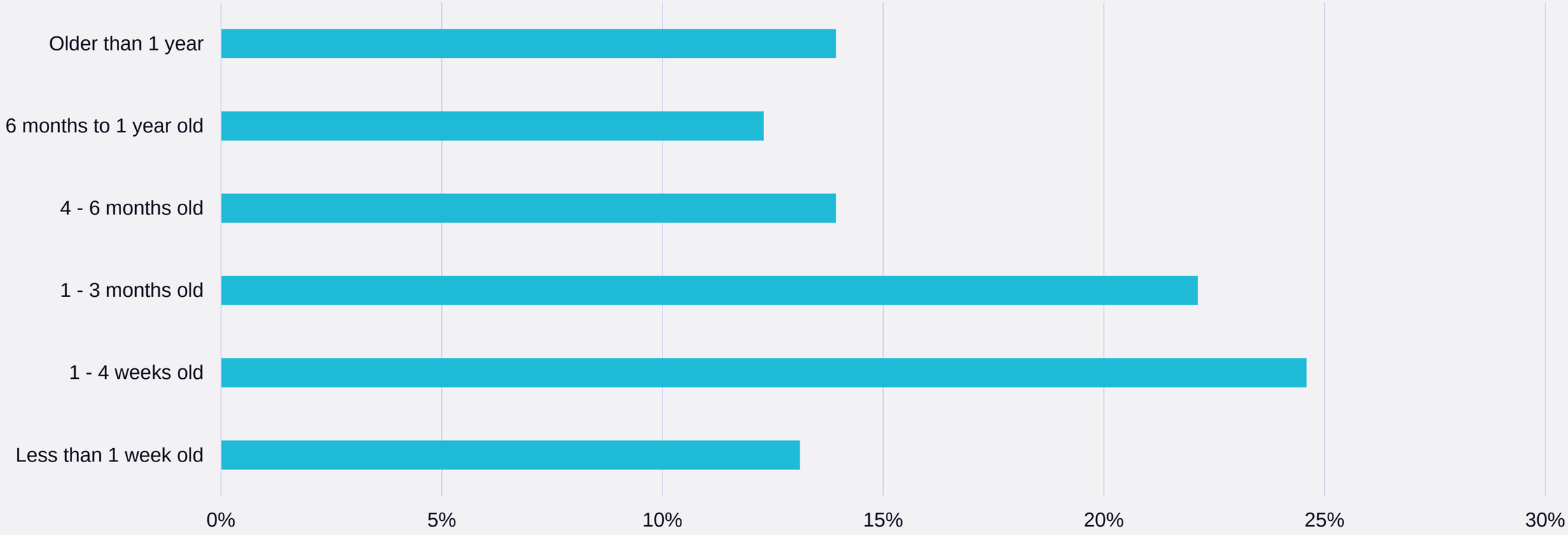
After the completion of construction/maintenance, how long does it usually take before your GIS data reflects the new construction/maintenance information?



Nearly half of all respondents update their GIS with new information within 10 days of project completion. However, 25% utilize update processes that exceed 30 days.

Outstanding Work Orders

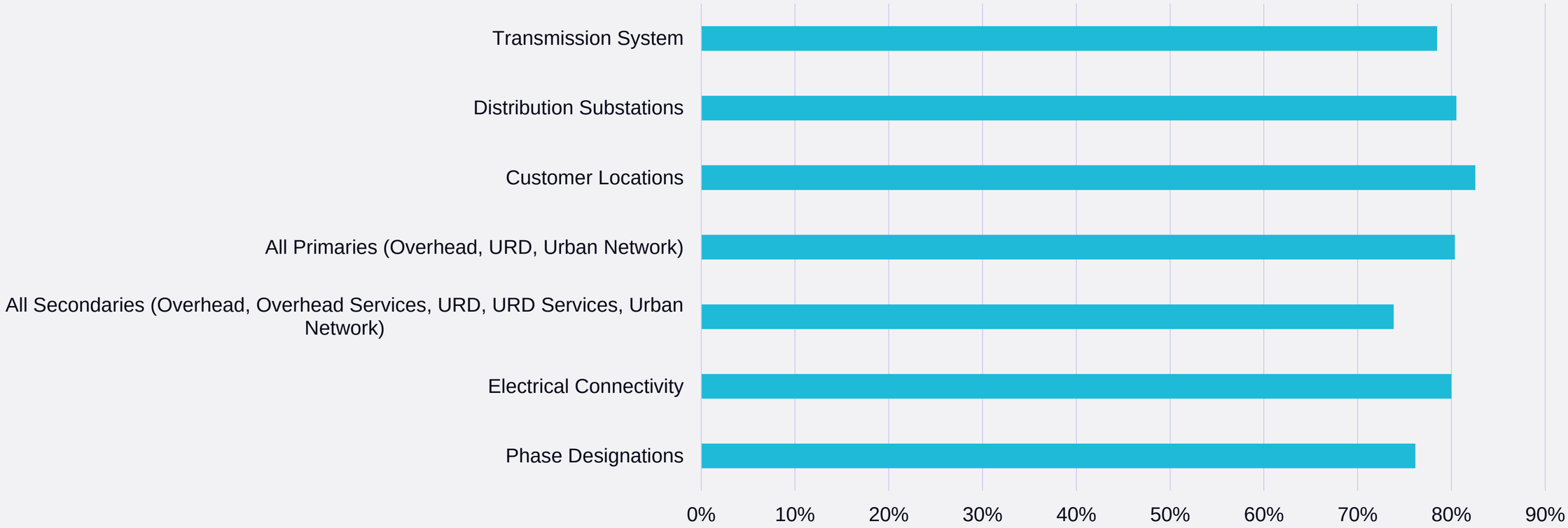
What is the oldest outstanding work order still to add to the GIS?



While 13% report applying GIS edits in less than 1 week, the majority have an outstanding editing backlog measured in weeks or months.

Data Completeness

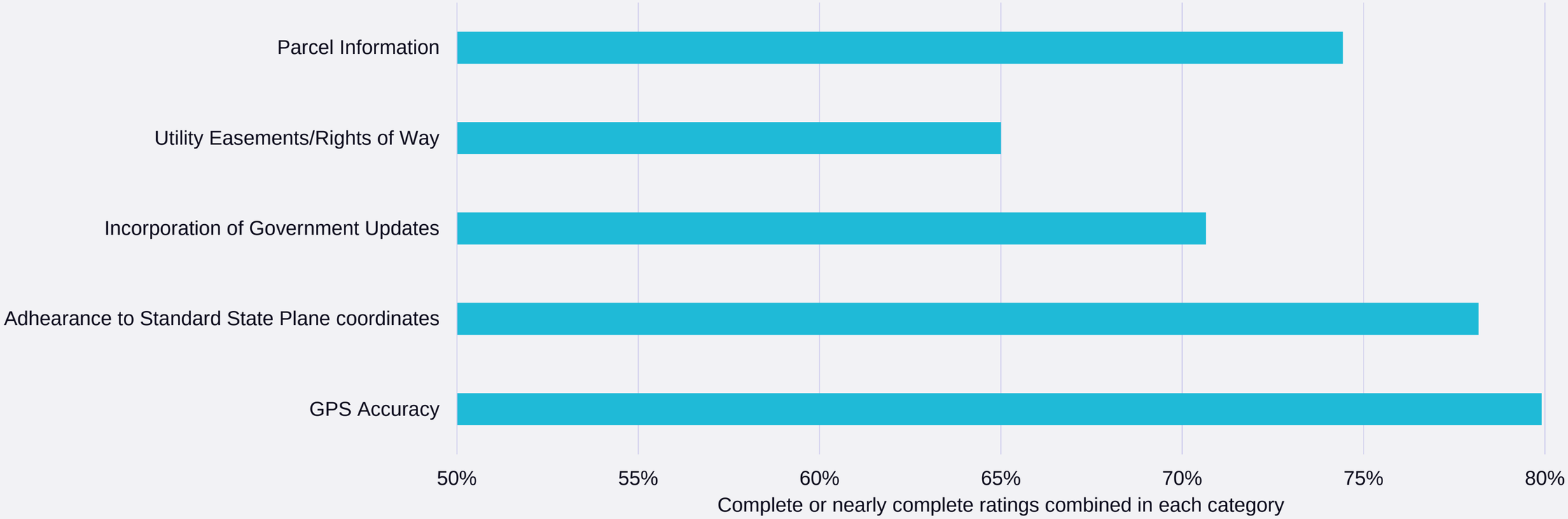
How would you rate the completeness of your GIS data in the following areas?



On the average, respondents report over 73% completeness of geographic grid data. Yet, as an industry there are significant data needs to fully support a modern grid.

Land/Street Information Accuracy

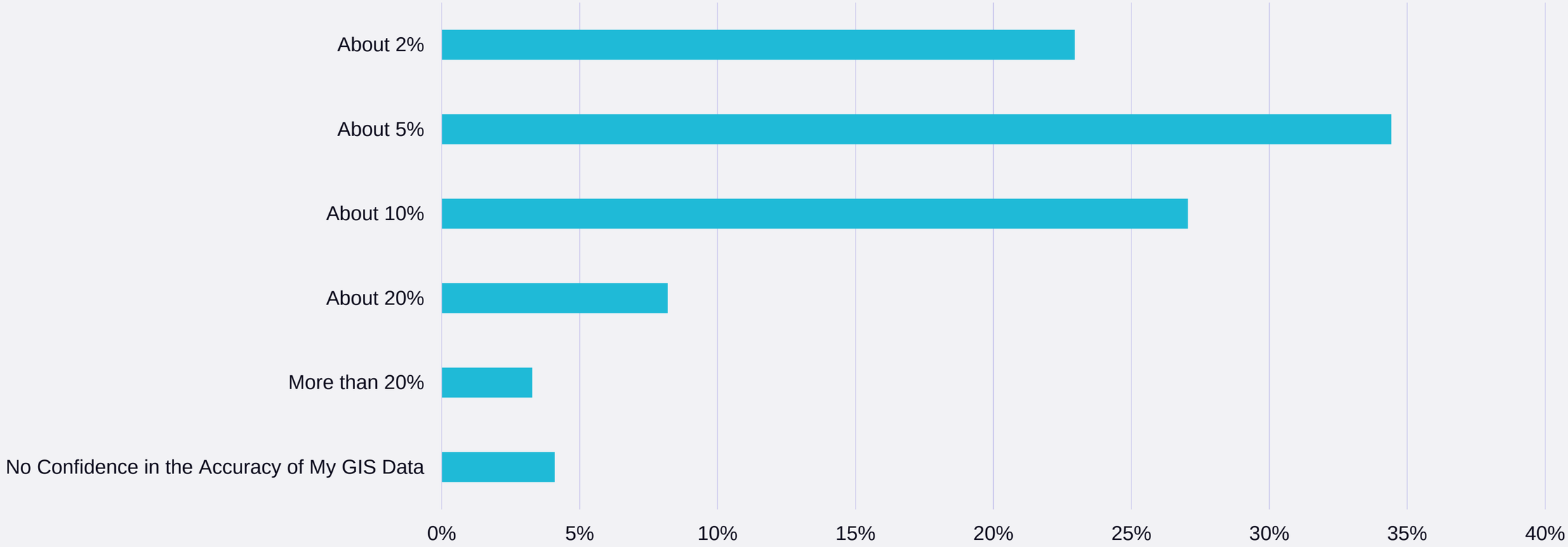
How would you rate the quality of your land/street information in the following areas?



Nearly 80% of respondents report their land and street information is GPS accurate. However, only 65% report this accuracy for easements and rights of way.

Data Error Rates

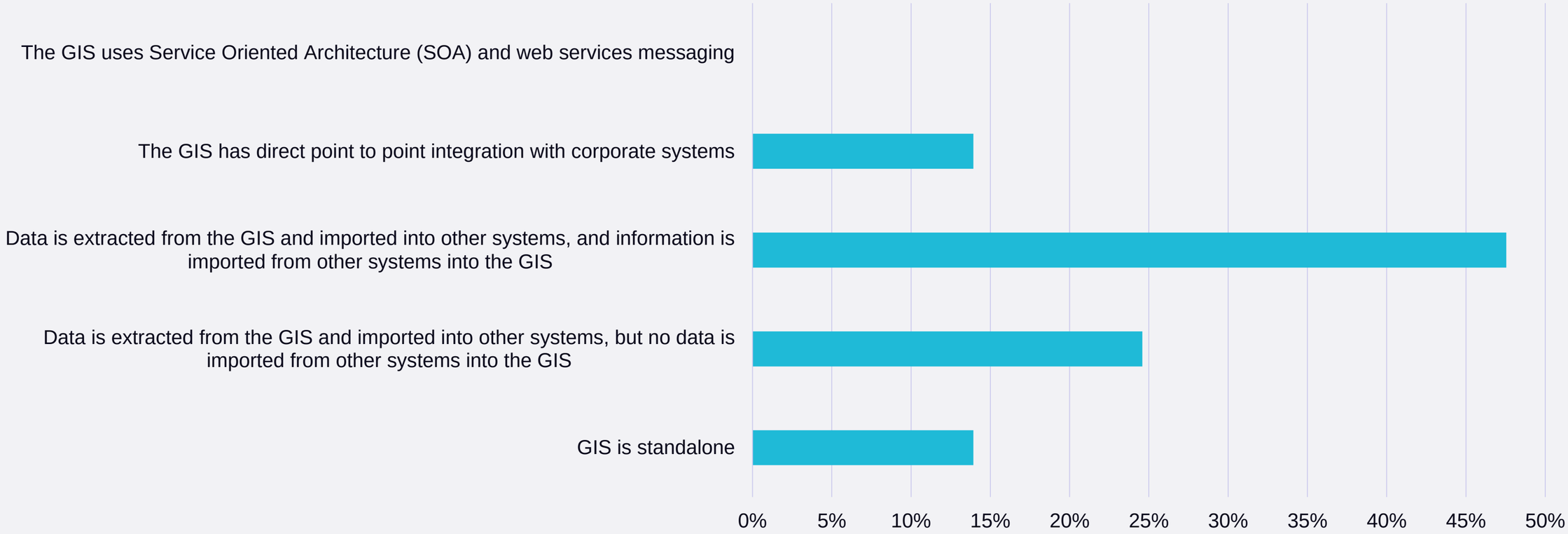
What best describes the percentage of errors you have identified in your GIS data?



While 23% of respondents report high confidence in their GIS data, most reported significant error rates.

Integration of GIS Data

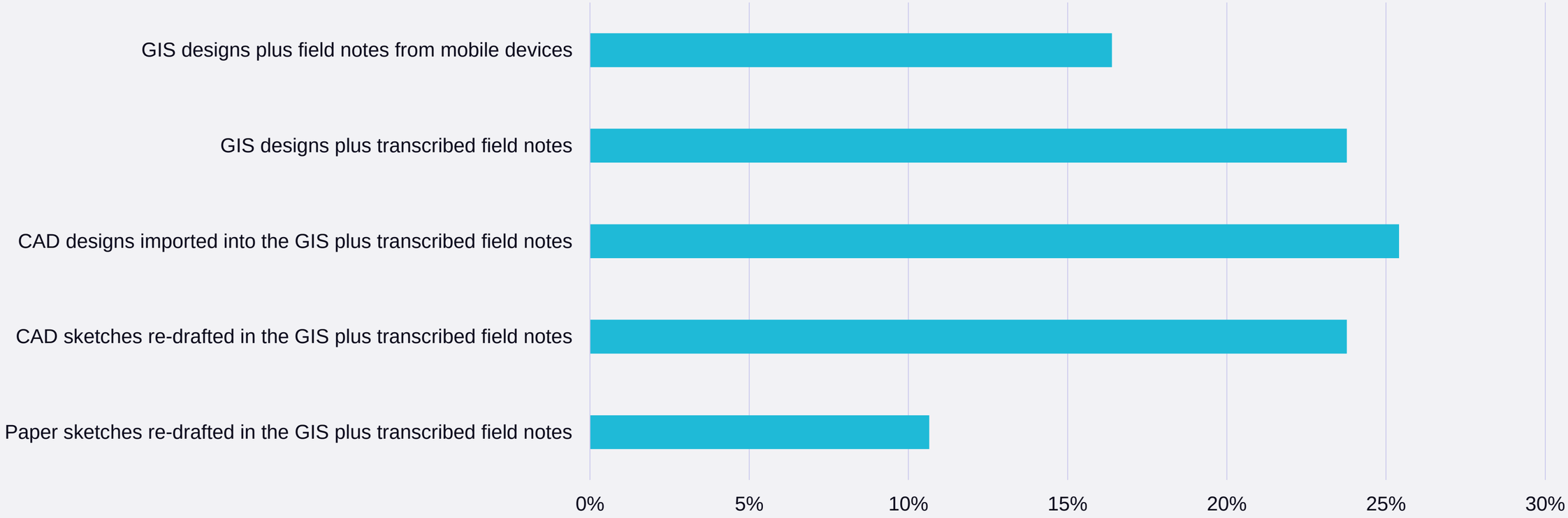
What best describes the integration of your GIS?



A majority of responses indicate leveraging GIS data in other systems. However, no utilities reported using web services for integration.

GIS Management and Design

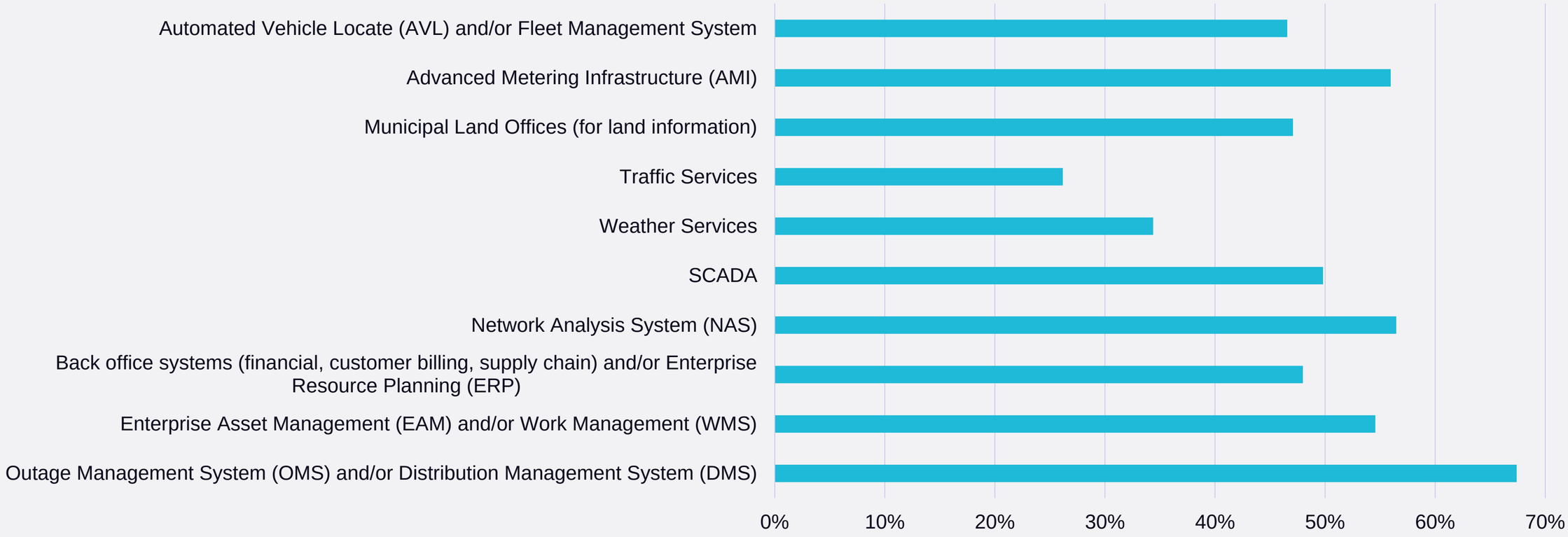
What best describes your data management and design process?



40% of respondents design within GIS. Yet nearly 35% of utilities redraft designs into the GIS either from CAD or from paper.

Corporate Systems Integration

How would you rate the level of GIS integration with other corporate systems?



Nearly 70% of utilities report strong GIS integration with OMS and DMS. However, only 1 in 4 leverage real-time traffic and weather services.

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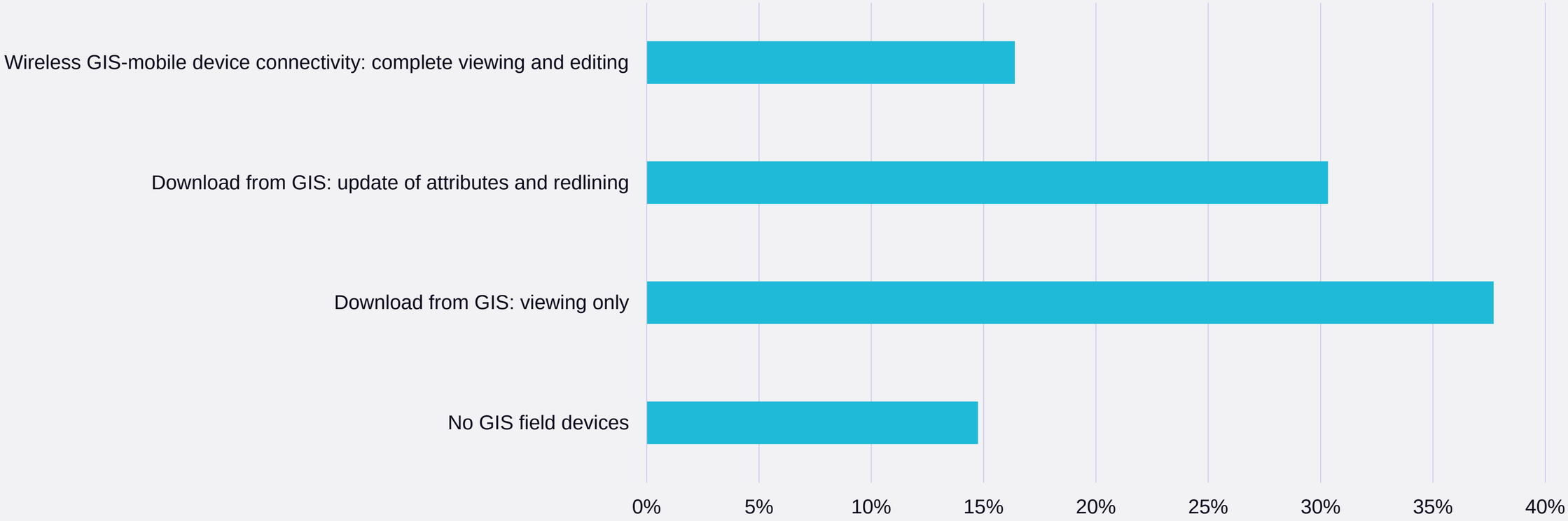
Field Mobility Practices

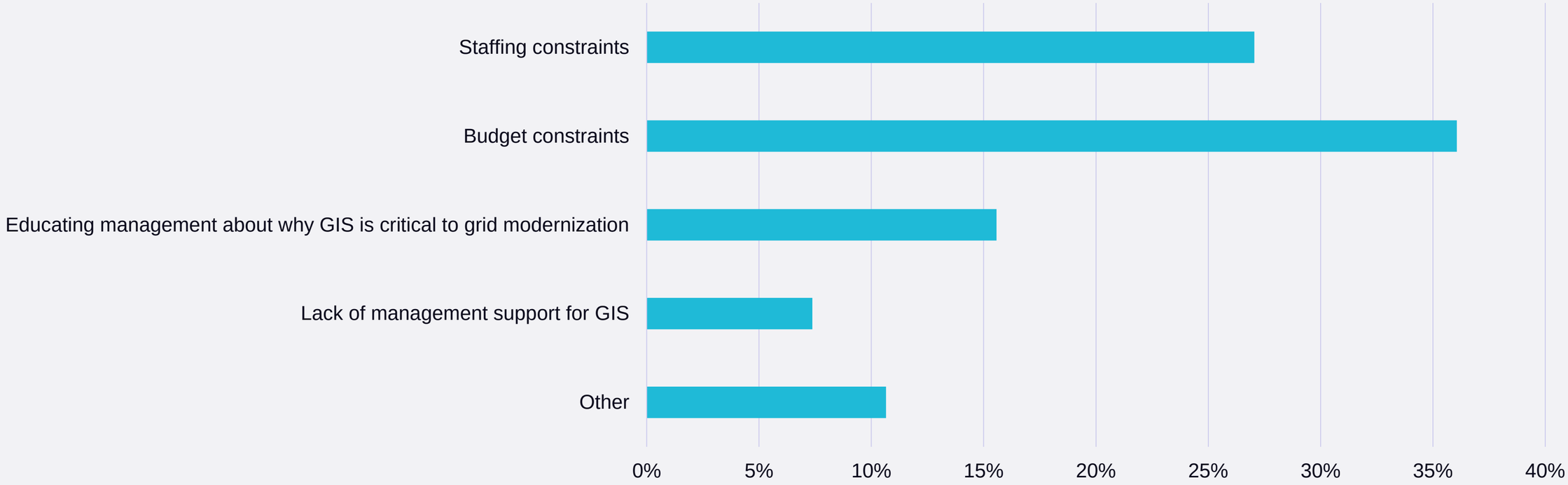
What best describes your GIS field mobility practices?



Over 85% of utilities use GIS in the field. However, less than 20% make use of complete viewing and editing capability.

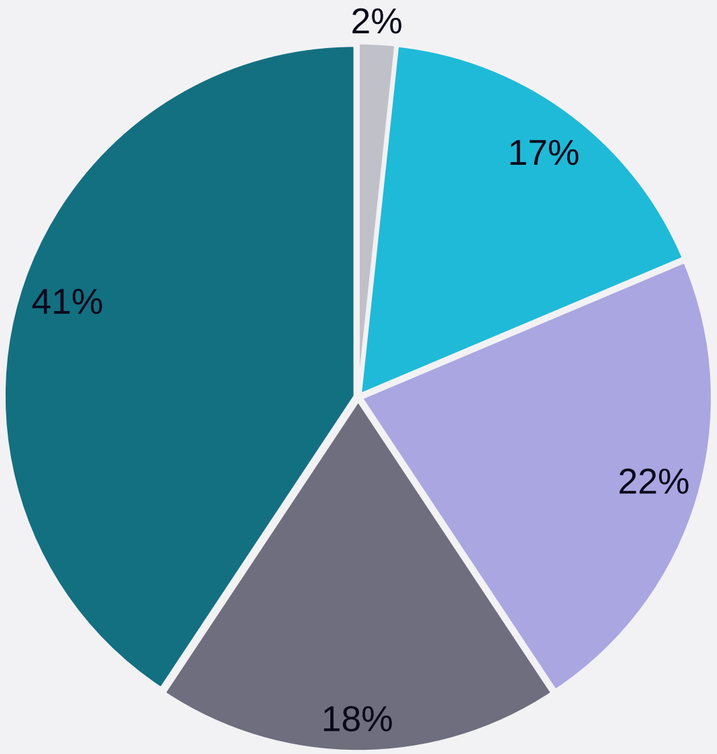
Challenges to Modernization

What do you consider the single biggest challenge in your organization to having a GIS that is ready for grid modernization?



Less than 10% of utilities report a lack of management support for GIS. Yet, they report budget and staffing constraints dominate their readiness to leverage GIS as a foundation for grid modernization.

GIS Vision



Which statement best describes your GIS vision?

- Not important
- A departmental system for mapping
- An efficient tool to produce operating maps
- Helpful for providing data to strategic systems, but not strategic itself
- A strategic core IT platform, fully integrated with foundation IT systems and fully supported by IT

98% of respondents see GIS as important to their utility. 83% report their GIS use has transcended departmental mapping and 40% identity GIS as absolutely critical to the organization.