



January 30, 2017

Dresner Advisory Services, LLC

2017 Edition

# Location Intelligence Market Study

*Wisdom of Crowds® Series*

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The information contained in this Wisdom of Crowds® Location Intelligence Business Intelligence Market Study Report is a summary of the opinions expressed in the online responses of individuals that chose to respond to our online questionnaire and does not represent a scientific sampling of any kind. Dresner Advisory Services, LLC shall not be liable for the content of this report, the study results, or for any damages incurred or alleged to be incurred by any of the companies included in the report as a result of the report's content.

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## Definitions

### Business Intelligence Defined

Business intelligence (BI) is “knowledge gained through the access and analysis of business information.”

Business Intelligence tools and technologies include query and reporting, OLAP (online analytical processing), data mining and advanced analytics, end-user tools for ad hoc query and analysis, and dashboards for performance monitoring.

Howard Dresner, *The Performance Management Revolution: Business Results Through Insight and Action* (John Wiley & Sons, 2007)

### Location Intelligence Defined

Location Intelligence is a form of business intelligence where the dominant dimension used for analysis is location or geography. Most typically, though not exclusively, analyses are conducted by viewing data points overlaid onto an interactive map interface.

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## Introduction

This year we celebrate the tenth anniversary of Dresner Advisory Services! Our thanks to all of you for your continued support and ongoing encouragement.

Since our founding in 2007, we have worked hard to set the “bar” high—challenging ourselves to innovate and lead the market—offering ever greater value with each successive year.

Our first market report in 2010 set the stage for where we are today. Since that time, we have expanded our agenda and have added new research topics every year. For 2017, we plan to release 15 major reports, including our original BI flagship report—in its eighth year of publication!

Location intelligence has been somewhat of a “sleeper” topic for the past few years. However, when we started coverage in 2014, we saw the potential for it to become mainstream. As is the case with any topic, it takes several years of study to discern real trends. With the growth in visualization and the emergence of IoT, location as a key dimension and maps as a means of displaying and navigating insights have become increasingly important.

As you read this report consider how location intelligence might be exploited or expanded in your organization to improve your understanding of customers, markets, assets, etc.

We hope you enjoy this report!

Best,

A handwritten signature in black ink, appearing to read "Howard". The signature is fluid and cursive, with a large initial 'H'.

Chief Research Officer  
Dresner Advisory Services

## About Howard Dresner and Dresner Advisory Services

The DAS Location Intelligence Market Study was conceived, designed and executed by Dresner Advisory Services, LLC—an independent advisory firm—and Howard Dresner, its President, Founder and Chief Research Officer.

Howard Dresner is one of the foremost thought leaders in business intelligence and performance management, having coined the term “Business Intelligence” in 1989. He



has published two books on the subject, *The Performance Management Revolution – Business Results through Insight and Action* (John Wiley & Sons, Nov. 2007) and *Profiles in Performance – Business Intelligence Journeys and the Roadmap for Change* (John Wiley & Sons, Nov. 2009). He lectures at forums around the world and is often cited by the business and trade press.

Prior to Dresner Advisory Services, Howard served as chief strategy officer at Hyperion Solutions and was a research fellow at Gartner, where he led its business intelligence research practice for 13 years.

Howard has conducted and directed numerous in-depth primary research studies over the past two decades and is an expert in analyzing these markets.

Through the Wisdom of Crowds<sup>®</sup> Business Intelligence market research reports, we engage with a global community to redefine how research is created and shared. Other research reports include:

- [Advanced and Predictive Analytics](#)
- [Big Data Analytics](#)
- [Business Intelligence Competency Center](#)
- [Cloud Computing and Business Intelligence](#)
- [Collective Insights<sup>®</sup>](#)
- [End User Data Preparation](#)
- [Enterprise Planning](#)
- [Natural Language Analytics](#)
- [Small and Mid-Sized Enterprise BI](#)

Howard conducts a weekly Twitter “tweetchat” on Fridays at 1:00 p.m. ET. During these live events the #BIWisdom “tribe” discusses a wide range of business intelligence topics.

You can find more information about Dresner Advisory Services at [www.dresneradvisory.com](http://www.dresneradvisory.com).

## About Jim Ericson

Jim Ericson is a research director with Dresner Advisory Services.

Jim has served as a consultant and journalist who studies end-user management practices and industry trending in the data and information management fields.

From 2004 to 2013 he was the editorial director at Information Management magazine (formerly DM Review), where he created architectures for user and industry coverage for hundreds of contributors across the breadth of the data and information management industry.



As lead writer he interviewed and profiled more than 100 CIOs, CTOs, and program directors in a 2010-2012 program called “25 Top Information Managers.” His related feature articles earned ASBPE national bronze and multiple Mid-Atlantic region gold and silver awards for Technical Article and for Case History feature

writing.

A panelist, interviewer, blogger, community liaison, conference co-chair, and speaker in the data-management community, he also sponsored and co-hosted a weekly podcast in continuous production for more than five years.

Jim’s earlier background as senior morning news producer at NBC/Mutual Radio Networks and as managing editor of MSNBC’s first Washington, D.C. online news bureau cemented his understanding of fact-finding, topical reporting, and serving broad audiences.

## Focus of Research

In this study, we address key location intelligence issues including:

- Perceptions and intentions surrounding location intelligence
- End-user requirements and features:
  - Geocoding support
  - Location intelligence capabilities
  - Third-party GIS integration
  - Mobile location intelligence features
- Industry support for location intelligence
- User requirements versus industry capabilities
- Vendor ratings

## **Benefits of the Study**

The DAS Location Intelligence Market Study provides a wealth of information and analysis, offering value to both consumers and producers of business intelligence technology and services.

## **Consumer Guide**

As an objective source of industry research, consumers use the DAS Location Intelligence Market Study to understand how their peers leverage and invest in location intelligence and related technologies.

Using our unique vendor performance measurement system, users glean key insights into BI software supplier performance, which enables:

- Comparisons of current vendor performance to industry norms
- Identification and selection of new vendors

## **Supplier Tool**

Vendor licensees use the DAS Location Intelligence Market Study in several important ways:

### **External Awareness**

- Build awareness for business intelligence markets and supplier brands, citing DAS Location Intelligence Market Study trends and vendor performance
- Gain lead and demand generation for supplier offerings through association with DAS Location Intelligence Market Study brand, findings, webinars, etc.

### **Internal Planning**

- Refine internal product plans and align with market priorities and realities as identified in the DAS Location Intelligence Market Study
- Better understand customer priorities, concerns, and issues
- Identify competitive pressures and opportunities

## **Survey Method and Data Collection**

As with all of our Wisdom of Crowds® Market Studies, we constructed a survey instrument to collect data and used social media and crowdsourcing techniques to recruit participants. Data for this report was collected between July and October of 2016.

## **Data Quality**

We carefully scrutinized and verified all respondent entries to ensure that only qualified participants were included in the study.

## Executive Summary

- Among 30 topics under study, location intelligence ranks 20th, below traditional topics but ahead of "hot" topics including big data and IoT (p. 17).
- More than half of respondents consider location intelligence "critical" or "very important" (p. 18). The perceived importance of location intelligence has increased over time and appears to be gaining new traction (pp. 19-23). Industry perceived importance is also strong (p. 72). Overall vendor sentiment is only somewhat in line with user expectations over time (p. 80).
- Postal code and province/state are the most important levels of detail for users. Over time, granularity of detail is increasingly important (pp. 24-28).
- The most important geocoding user features are native geocoding, automated geocoding and street-level support. Feature interest has grown over time (pp. 29-34). Industry support for features is only somewhat aligned (pp. 73-74); some features in decline have shifted to third-party integration versus core integration.
- Managers are the most targeted users of location intelligence across functions and organizations of different sizes (pp. 35-38).
- The most important location intelligence user features are map-based visualization, drill-down navigation, and dashboards. Feature interest grew sharply among users in 2017 (pp. 39-44). Industry feature support is good across leading features (pp. 75-76).
- Location intelligence penetration remains modest. We have seen modest growth over time, and respondents describe significant growth plans (pp. 45-50).
- Respondents are more likely to prefer on-premises deployments, but are clearly not daunted by the prospects for cloud-based deployments. (pp. 51-55).
- Desktops and laptops are the most popular devices for using location intelligence, well ahead of mobile phones and tablets (pp. 56-60).
- Among mobile location intelligence features, query filtering is the top choice and well ahead of reverse geocoding and geofence alerting (pp. 61-65). Industry support is aligned with user priorities but is immature (pp. 78-79).
- The importance of GIS vendor integration with Esri and database extensions has increased, while integration with Google has become less important (pp. 66-71). Vendors have trended GIS integration support in line with user expectations (p. 77).

## Study Demographics

Our survey base includes a cross-section of data across geographies, functions, organization sizes, and vertical industries. We believe that, unlike other industry research, we offer a more characteristic sample and better indicator of true market dynamics.

We constructed cross-tab analyses using these demographics to identify and illustrate important industry trends.

## Geography

In our 2017 sample, 64 percent of respondents represent North American organizations (including five Canadian provinces and a majority of U.S. states). About one-quarter represent EMEA and about 9 percent work in Asia Pacific (fig. 1).

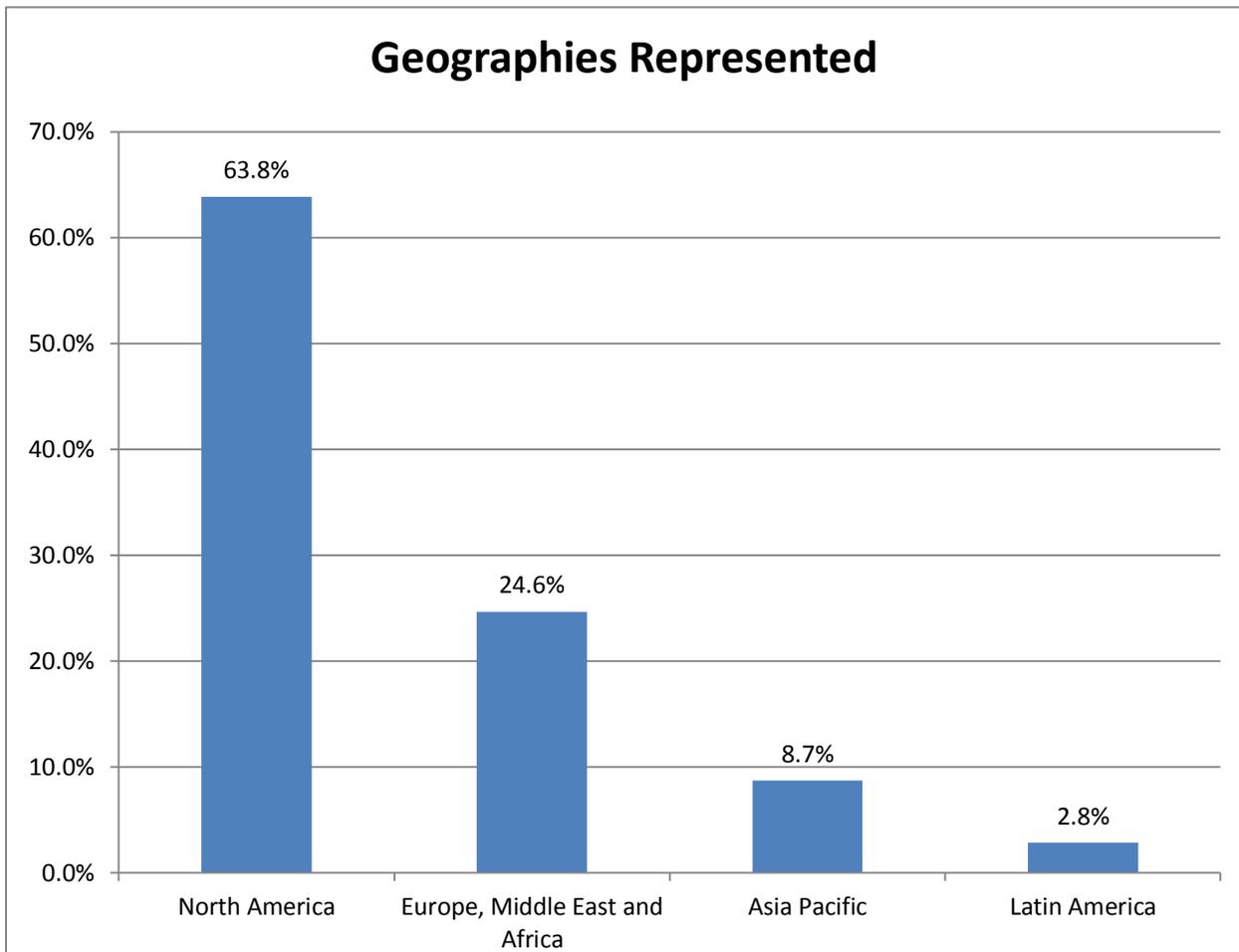


Figure 1 – Geographies represented

## Functions

IT accounts for the largest group of respondents (31 percent) by function. Twenty-two percent come from the business intelligence competency center (BICC) and 11 percent from executive management. Finance, R&D, and Marketing/Sales are the next most represented (fig. 2).

Tabulating results by function enables us to compare and contrast the plans and priorities of different departments within organizations.

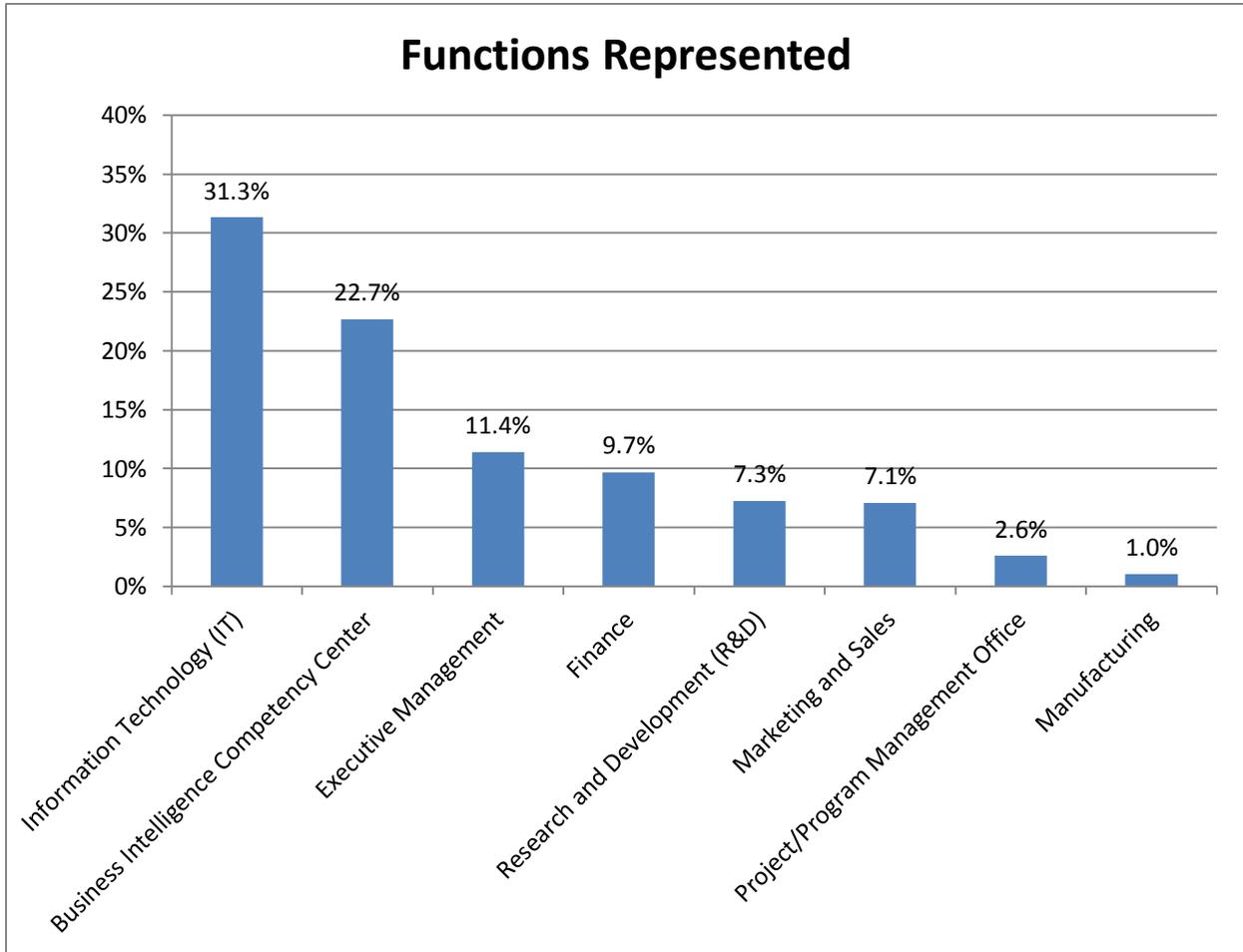


Figure 2 – Functions represented

### Vertical Industries

Vertical industry participation in 2017 is well distributed and led by technology (13 percent) followed by financial services (10 percent), healthcare, and consulting (9 percent each). We encourage the participation of consultants; they often have deeper industry knowledge than their customer counterparts. Third-party relationships give us insight into the partner ecosystem for BI vendors (fig. 3).

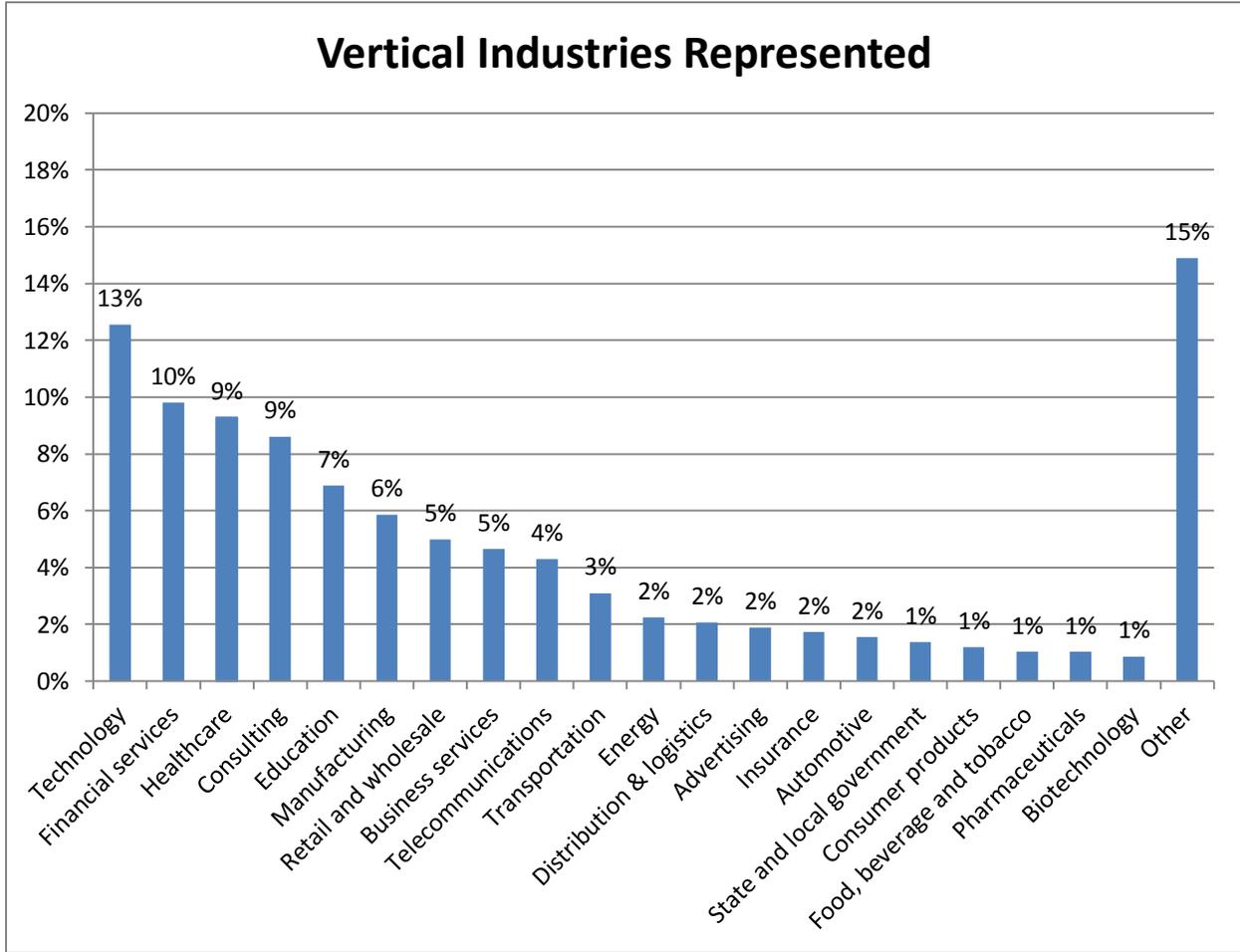


Figure 3 – Vertical industries represented

### Organization Size

Our survey sample is well distributed across organizations of different sizes (fig. 4). Twenty-eight percent come from small (1-100 employees) organizations, 28 percent represent mid-size (101-1,000 employees) organizations, and the remaining 44 percent represent large organizations of 1,000 or more employees.

Segmenting respondents by organization size helps us identify differences in behavior, attitudes, and planning.

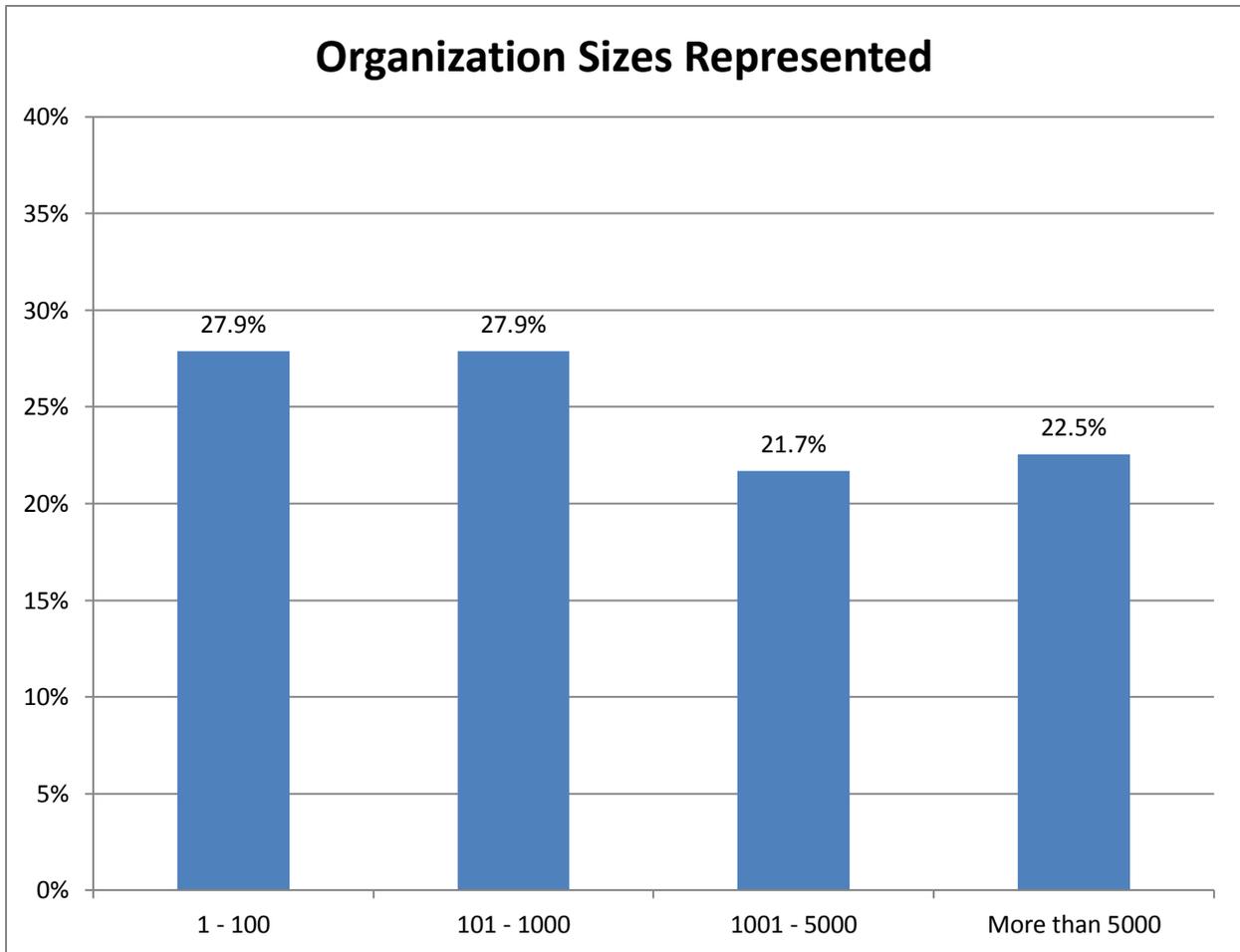


Figure 4 – Organization sizes represented

## Analysis of Findings

In this fourth annual Location Intelligence Market Study, we examine the nature of location intelligence, exploring user sentiment and perceptions, the nature of current implementations, and plans for the future.

### Importance of Location Intelligence

Among 30 topics under study in 2017, location intelligence ranks 20th, atop the lower third among technologies and initiatives strategic to business intelligence (fig. 5). Location intelligence interest trails traditional topics including reporting, dashboards, end-user self-service, and data visualization, but is ahead of other familiar topics that include big data, social media analysis and the Internet of Things. As a relatively mature BI-related topic, we believe organizations are generally acquainted with location intelligence regardless of its penetration in a given organization.

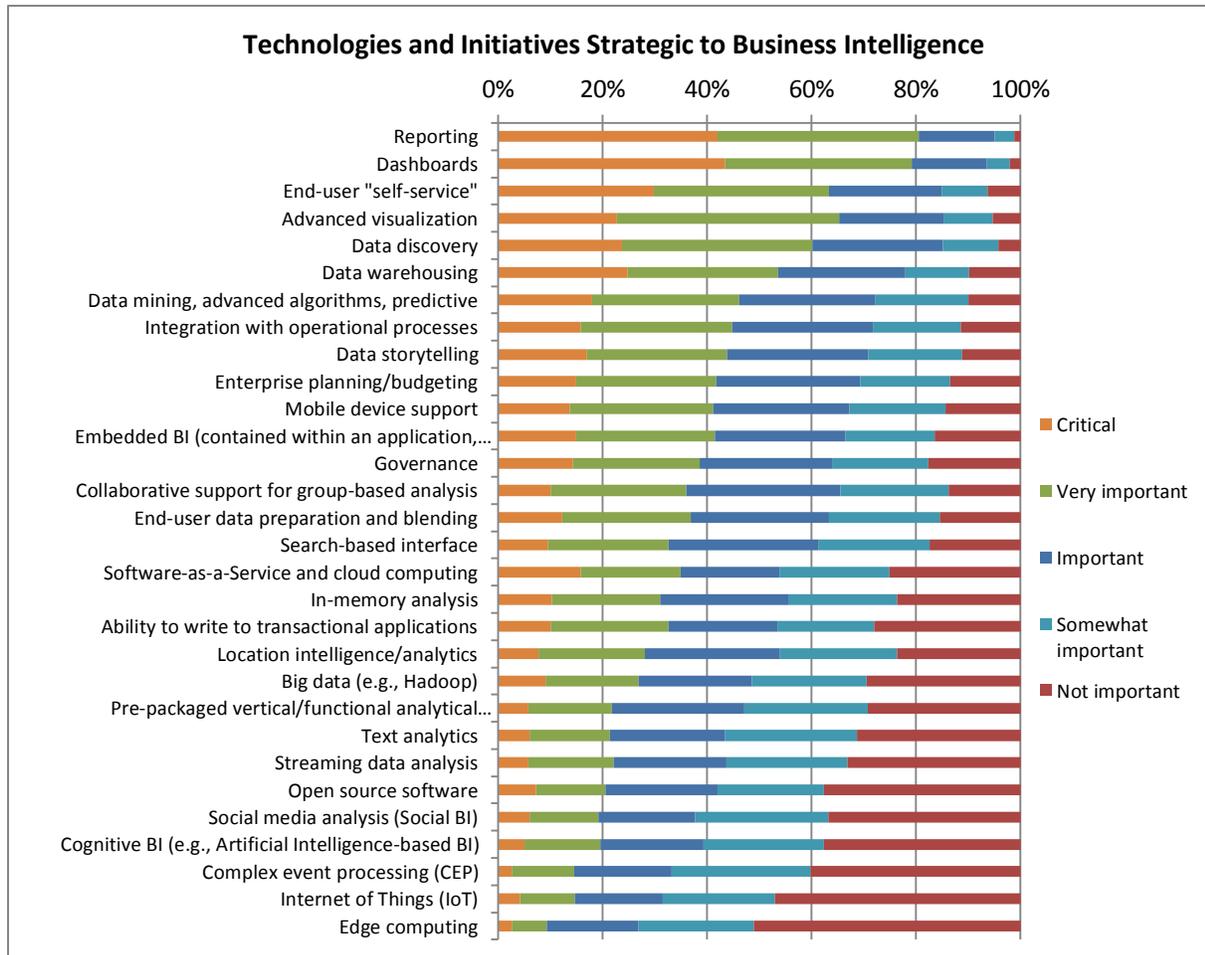


Figure 5 – Technologies and initiatives strategic to business intelligence

The majority of respondents have a high estimation of the importance of location intelligence in 2017 (fig. 6). More than half consider the topic to be "critically important" or "very important." Another 30 percent say location intelligence is, at minimum, "somewhat important." Just 6 percent say it is "not important;" this finding is increasingly positive year over year

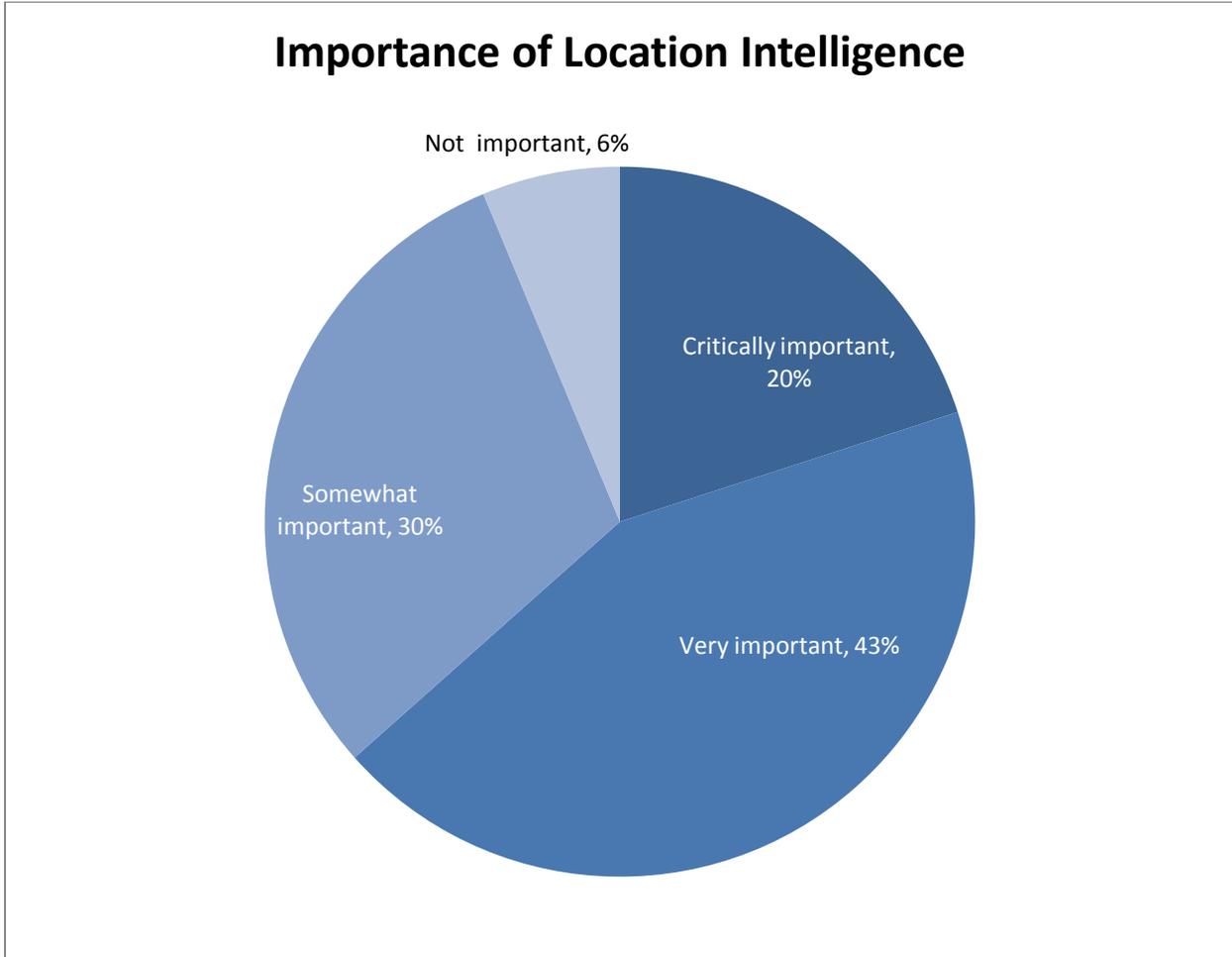


Figure 6 – Importance of location intelligence

The perceived importance of location intelligence has increased across four years of study and experienced a notable spike in interest in 2017 (fig. 7). While earlier studies reflect a level of "stickiness," our latest finding indicates location intelligence might be gaining new traction among BI adherents as more sources of data have come online. Nonetheless, we expect prospects for location intelligence will vary strongly from organization to organization. In 2017, a mean of 2.75 places overall importance toward a level of "important."

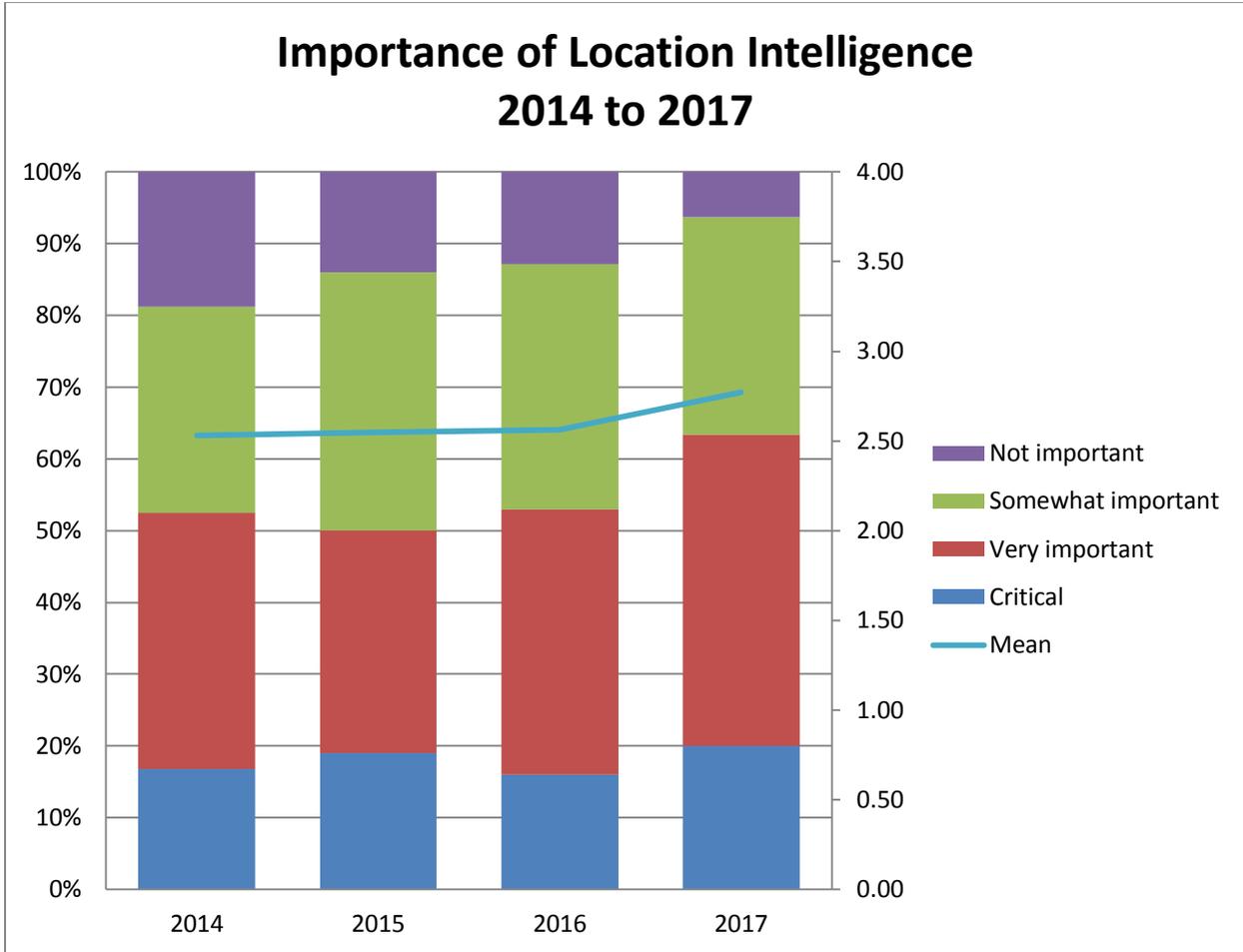


Figure 7 – Importance of location intelligence 2014 to 2016

We would generally expect respondents that deal with the “outside world” to value location intelligence more than internal or back-office functions. In 2017, however, the highest level of criticality (>3.0 = "important") is found in R&D, indicating that, in many cases, location intelligence may still be in a proof-of-concept stage (fig. 8). Executive Management, always on the lookout for new revenue and efficiency opportunities, is next most interested in location intelligence.

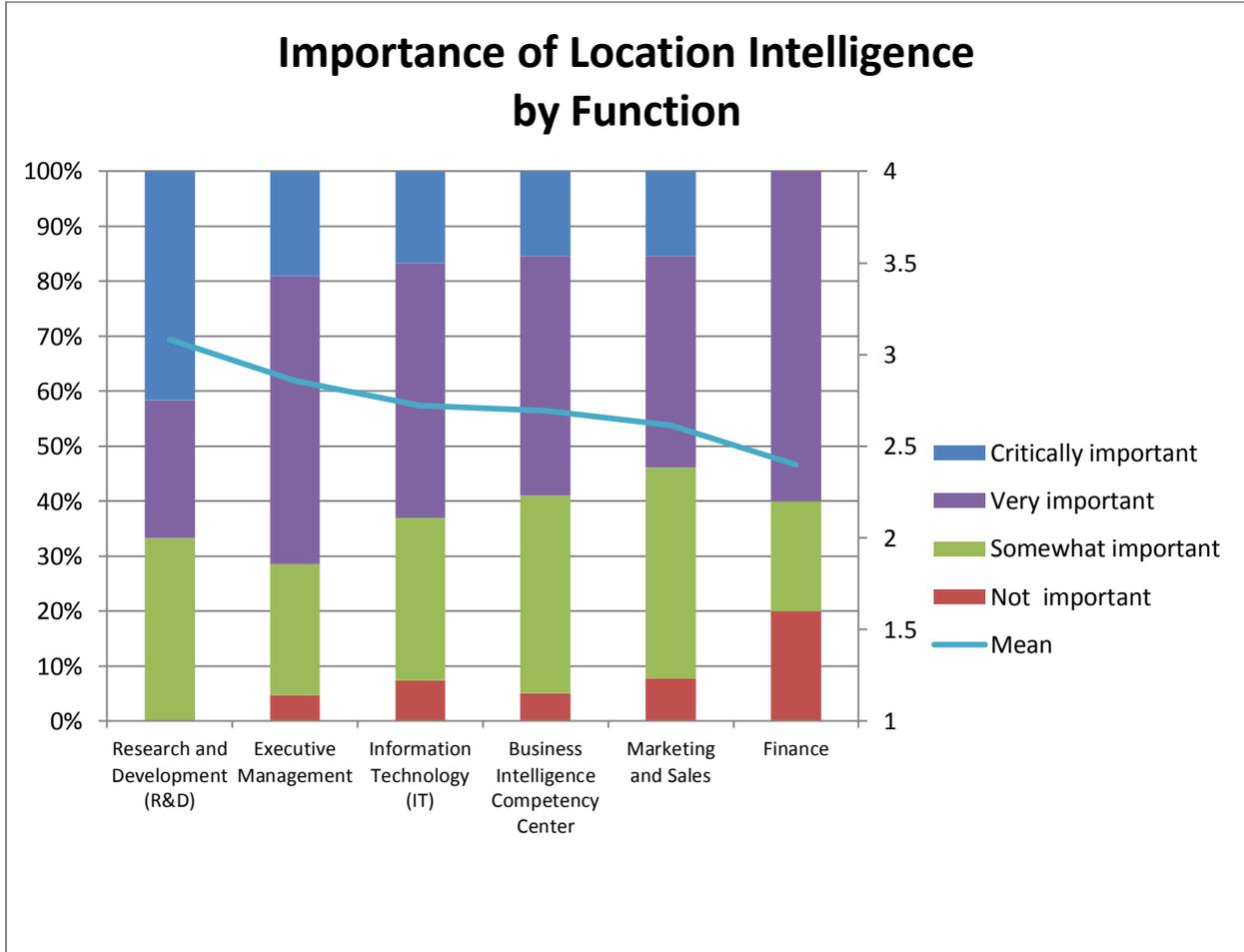


Figure 8 – Importance of location intelligence by function

In 2017, North America reports the highest mean interest in location intelligence, followed by EMEA and Asia Pacific (fig. 9). One-quarter of North American respondents say location intelligence is "critical;" about 70 percent of North America and EMEA respondents say location intelligence is, at minimum, "very important." In all cases, we expect opportunity, as well as culture and custom, will be determinants of the adoption of location intelligence.

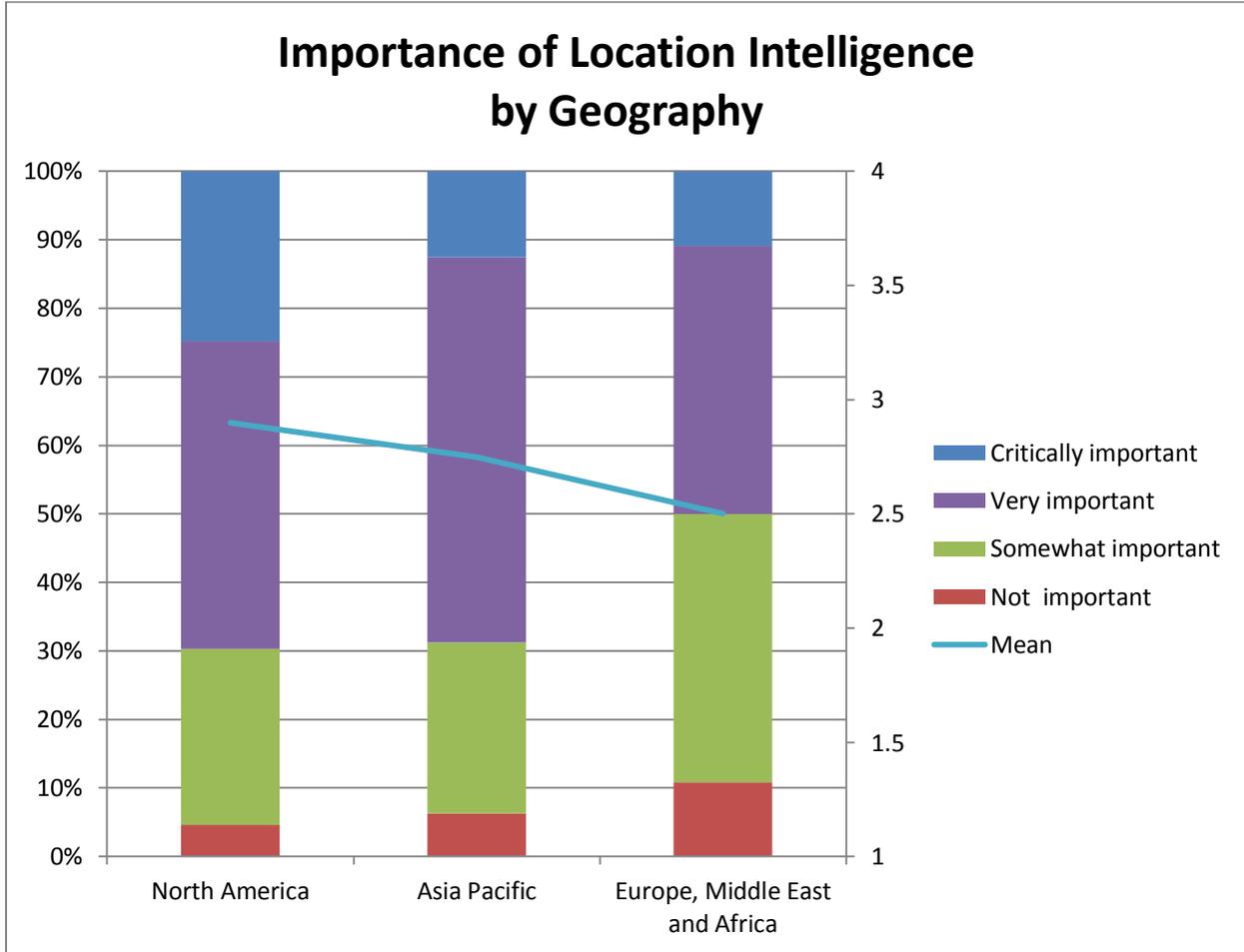


Figure 9 – Importance of location intelligence by geography

The perceived importance of location intelligence is somewhat consistent across organizations of different sizes (fig. 10). Small organizations, most flexible to adopting enterprise change through technology experimentation, are the least likely to view location intelligence as "not important" and are more likely than mid-sized (101-1,000 employees) organizations to find location intelligence "critical." Among large organizations (>1,000 employees), measures of "critical" importance are highest at organizations with between 1,001 and 5,000 employees.

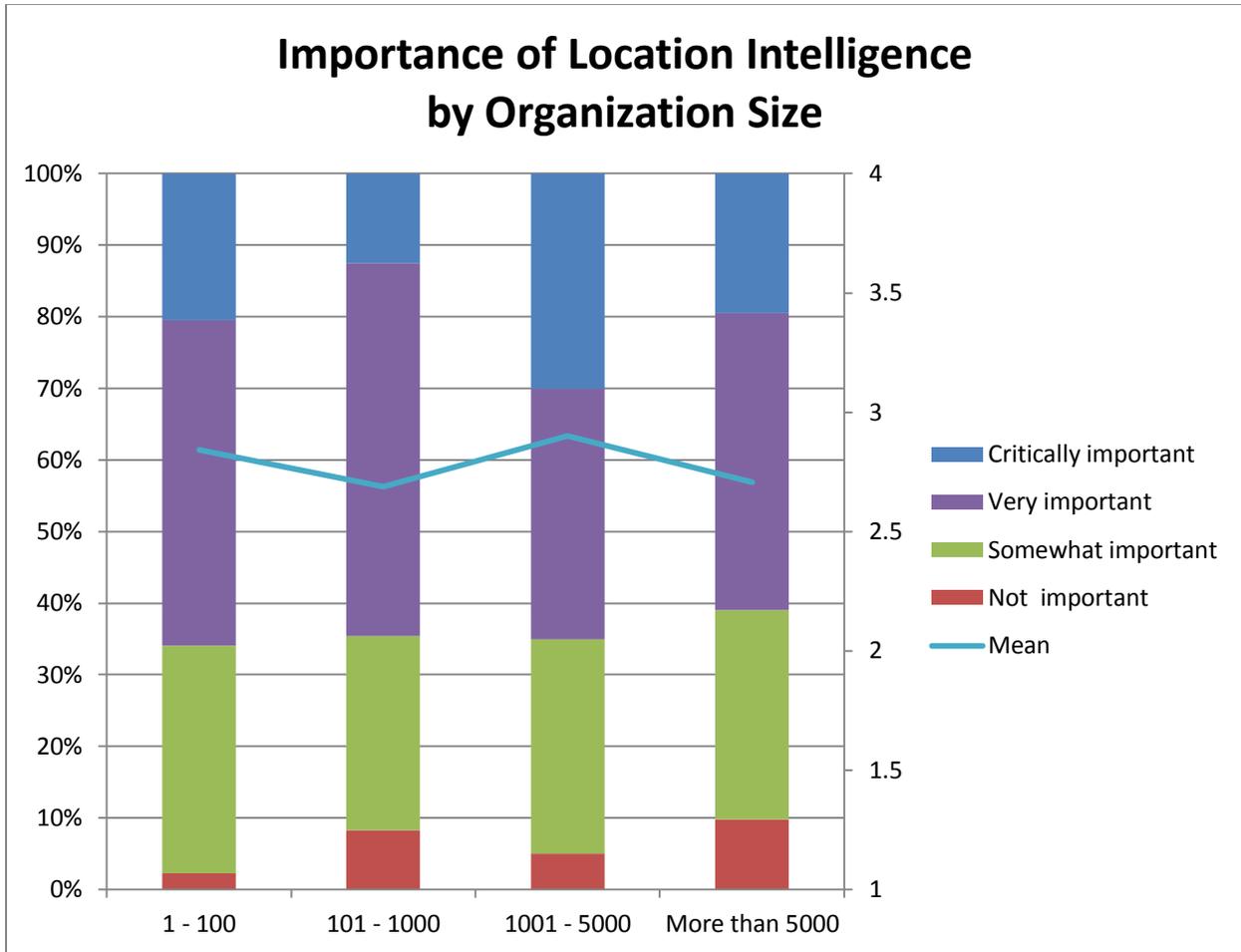


Figure 10 – Importance of location intelligence by organization size

Across industries, the perceived importance of location intelligence in 2017 is highest in Energy and in Transportation (fig. 11). These findings are intuitive, given these industries' historical and ongoing management of remote assets as well as those in transit. (We are surprised to see state and local governments trailing the industry category, given mandates for the same concerns.) Financial services and Telecommunications are the next most likely candidates, given high volumes of remote transactions / data transfers. Healthcare demonstrates interest in location-centric uses from population health to asset tracking, and Retail/wholesale has obvious interest in merchandising optimization and other concerns.

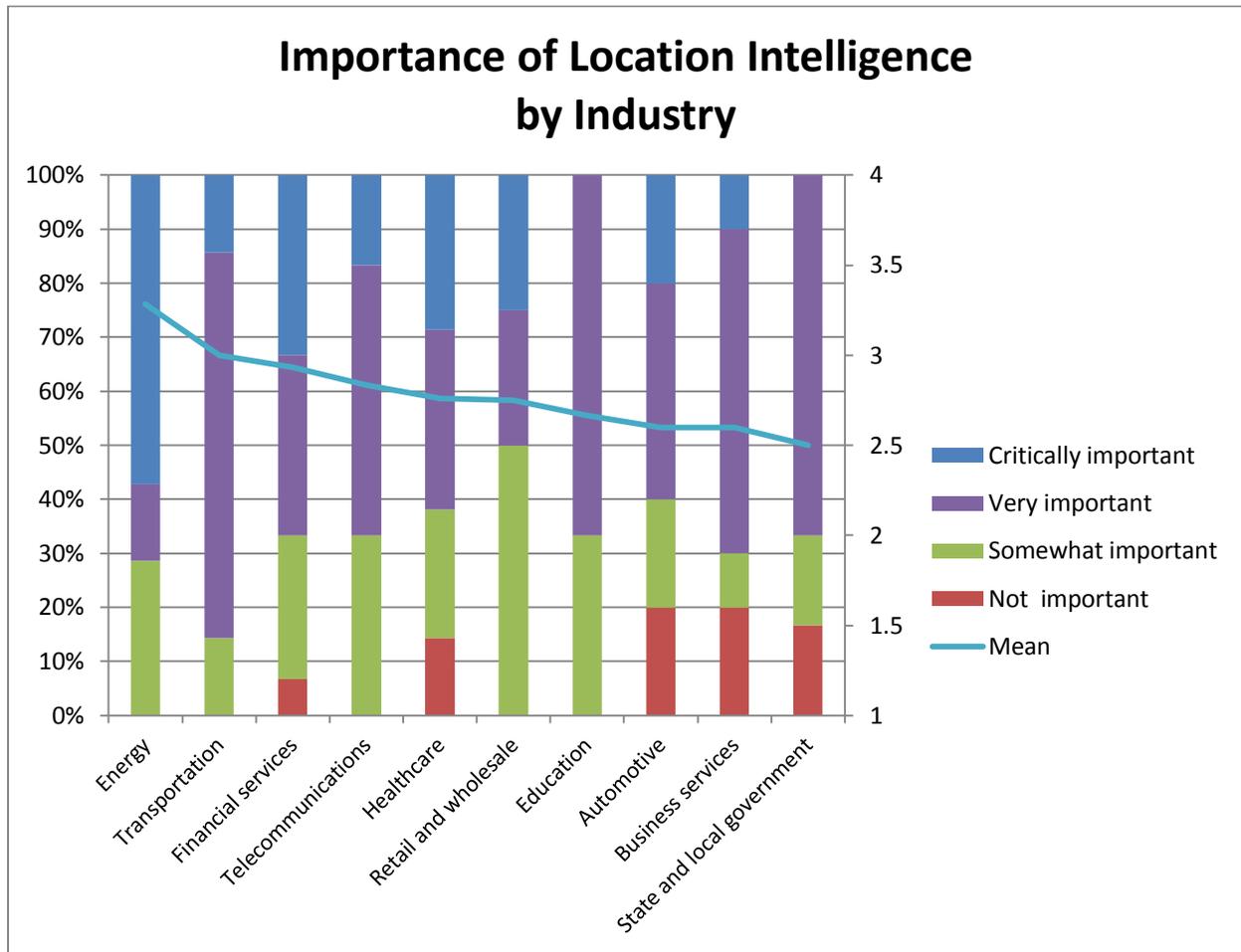


Figure 11 – Importance of location intelligence by industry

### Level of Geographic Detail Required

The granularity or level of geographic detail that respondents find important speaks to the business processes or analysis related to location intelligence. Postal codes or countries, for example, are useful to supply chain or fulfillment but also to sales region performance or demographics. Latitudinal/longitudinal or custom geographies (less related to a physical address) are important assets for discovery/recovery, natural resources, wellheads, or unmarked boundaries.

Respondents are interested in and/or pursuing activity across a range of marked, unmarked, and virtual location parameters (fig. 12). In 2017, conventional demarcations, led by postal code and province/state, are considered critical or very important to more than 70 percent of respondents. Country-level detail, like postal codes are "critical" to about 45 percent of respondents. Latitude/longitude is next most important, after which criticality drops among custom demarcations.

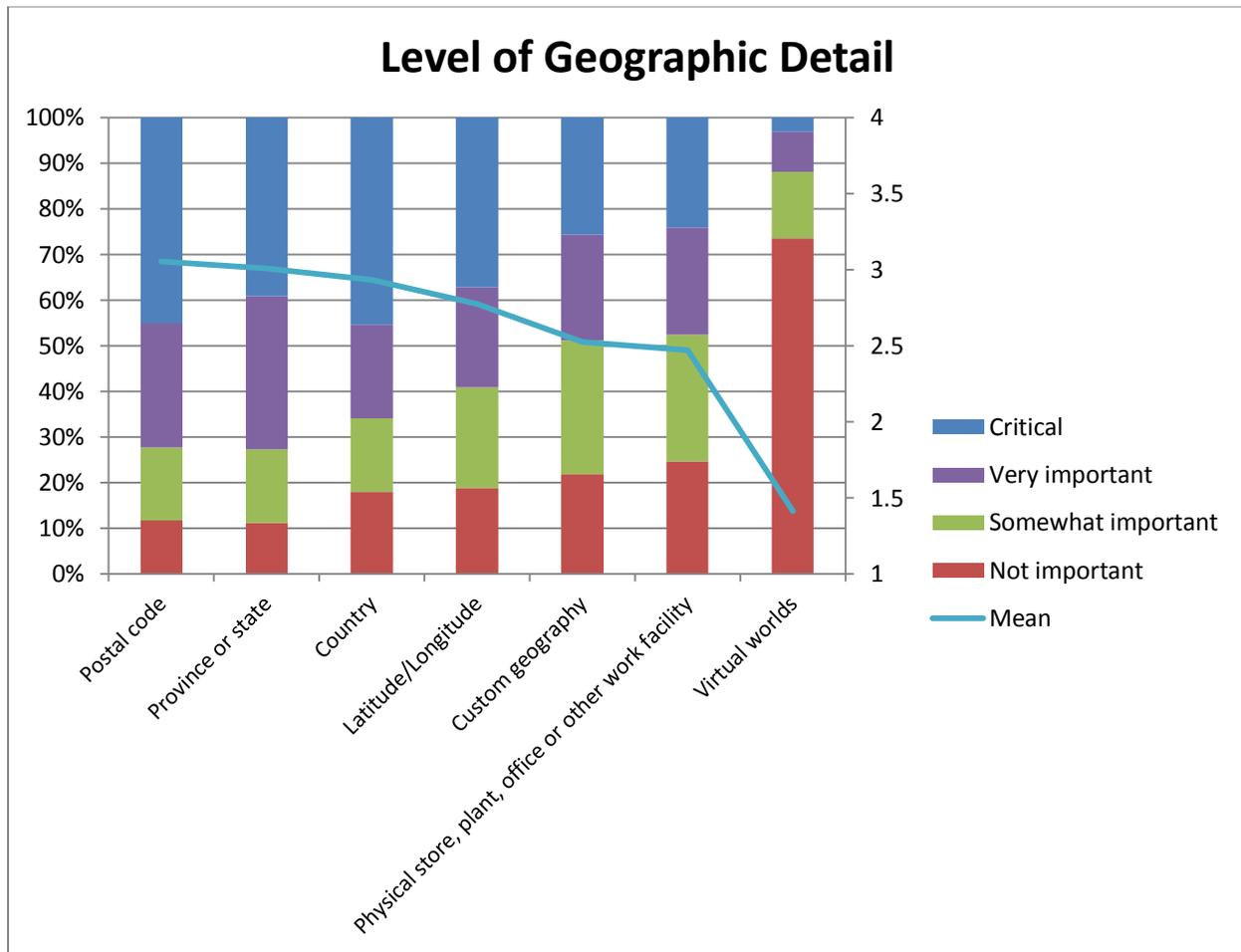


Figure 12 – Level of geographic detail

Across four years of study, nearly all requirements for location intelligence levels of detail (granularity) increased significantly (fig. 13). In 2017, postal codes show the greatest year-over-year increase and moved ahead of province/state and country to become the most required level of location detail. Latitude/longitude and custom geographies saw the next most significant gains, indicating increasing support for organization-specific granular location requirements.

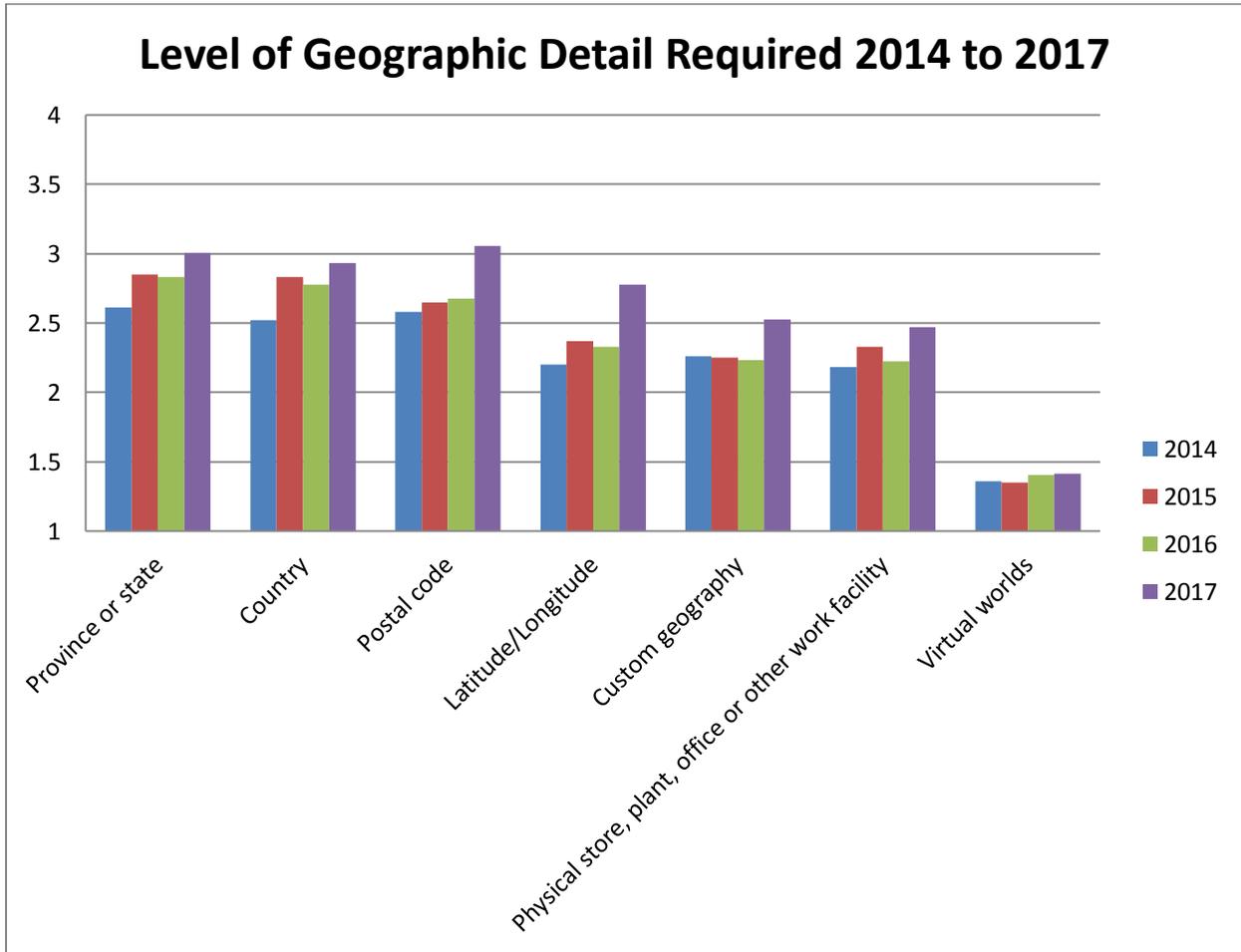


Figure 13 – Level of geographic detail required 2014 to 2017

By function, interest in postal codes is well clustered and led by Marketing and Sales (fig. 14). In contrast, Marketing and Sales respondents are notably disinterested in less granular levels of detail that cannot support customer micro-targeting by address or other demographics. R&D respondents lead interest in province/state, country and physical plant-level detail, while IT is distinctly most interested in latitude/longitude and leads interest in custom geographies.

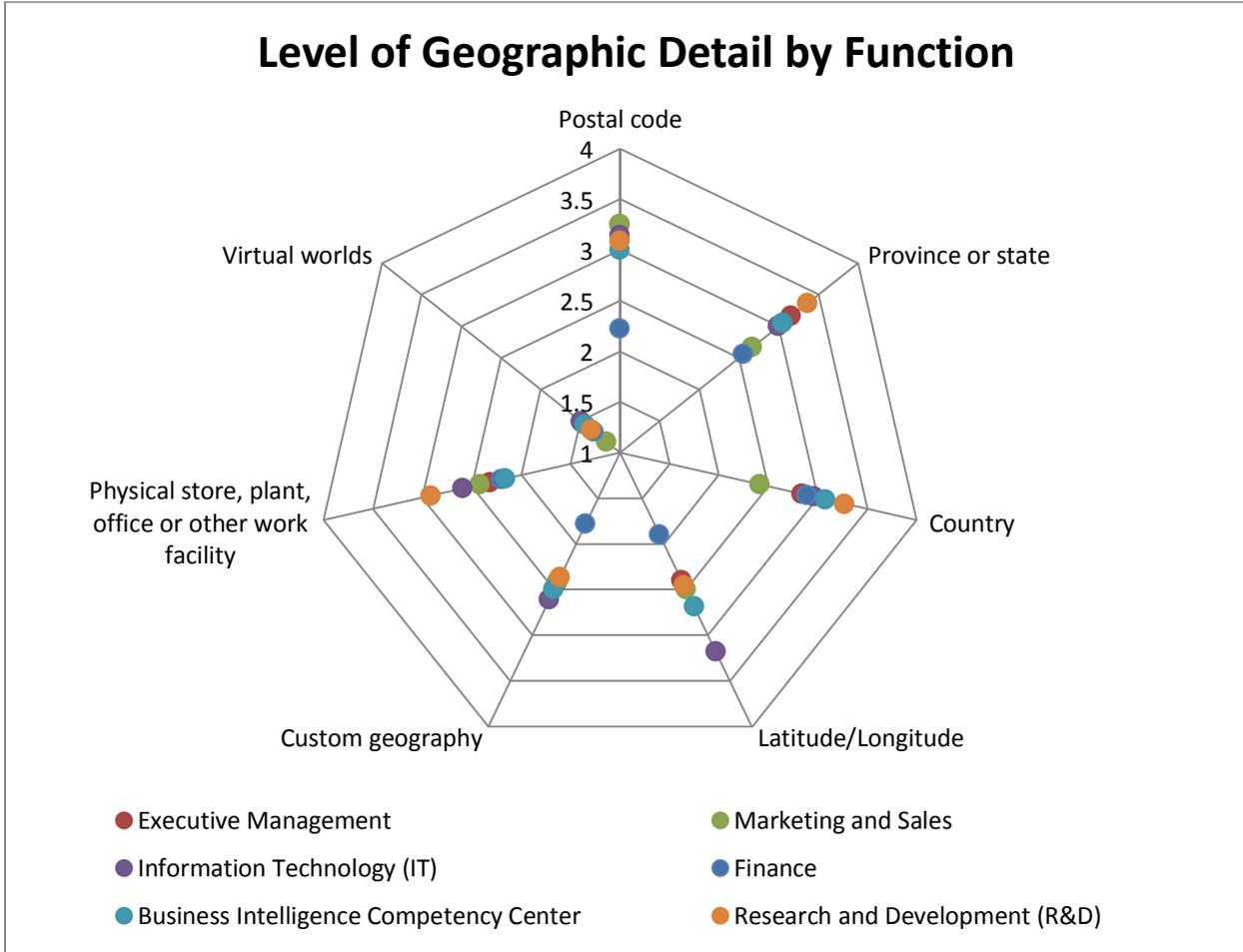


Figure 14 – Level of geographic detail by function

In our 2017 sample, mid-sized (101-1,000 employees) organizations express the most interest in postal code, province/state, and country-level detail (fig. 15). Very large organizations with more than 5,000 employees tend to focus more on physical assets, custom geographies, and latitude/longitude.

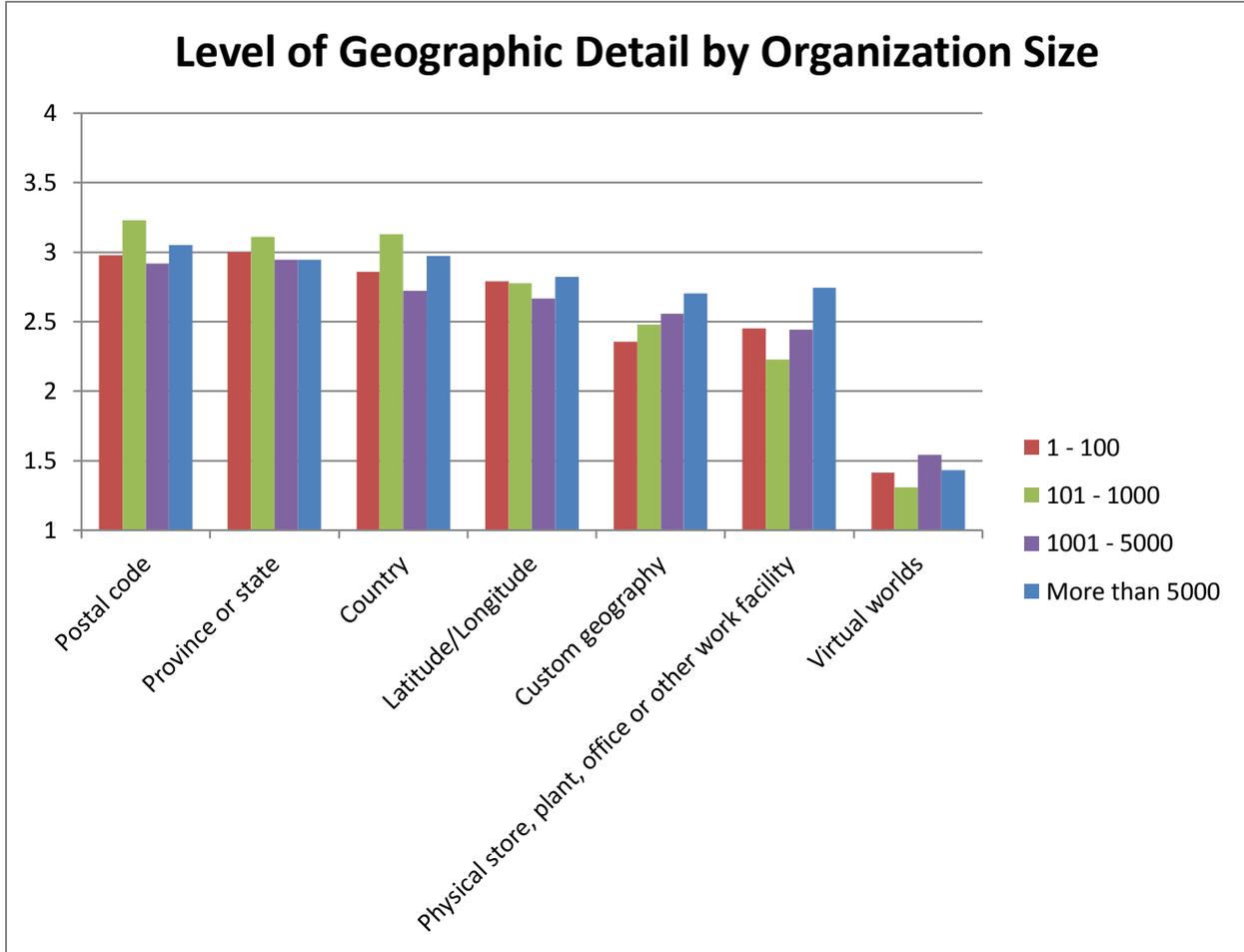


Figure 15 – Level of geographic detail by organization size

By industry, Retail/wholesale has the greatest interest in postal codes (fig. 16). Along with physical store-level detail, this relates to retail interest in inventory management as well as opportunities in Marketing/Sales noted earlier (fig. 14, p. 26). As we might well expect, Energy (with far-flung fixed wellhead and moving assets) reports the greatest interest in latitude/longitude and custom geographies as well as province/state level. Manufacturing respondents are most interested in country-level detail/codes.

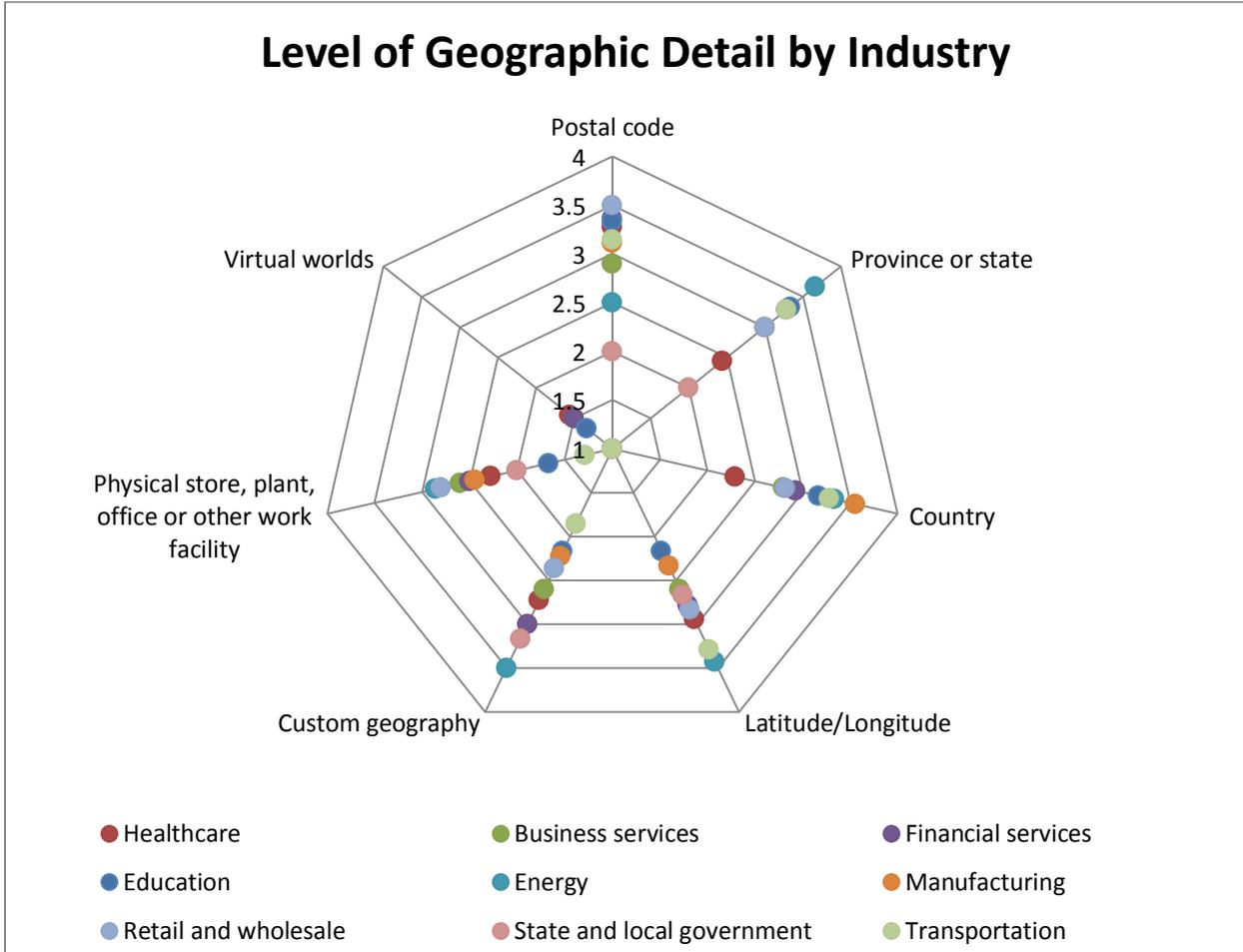


Figure 16 – Level of geographic detail by industry

### Prioritized Geocoding Features

Consistent with our earlier studies, 2017 respondents place the greatest importance (44 percent "critical" and 39 percent "very important") on built-in or native geocoding (fig. 17). (This feature presumes that software has an understanding of geography detail "baked in.") About 67 percent of respondents say automated geocoding (in which software automatically recognizes geographic data elements, for example, address) is critical or very important. Street-level geocoding is critical or very important to 60 percent of respondents. (This requirement assumes the software can cross-reference latitude/longitude and street-level address.) While interest in customer extensions, offline, and worldwide support trails off, these features are nonetheless critical or very important to large minorities of respondents.

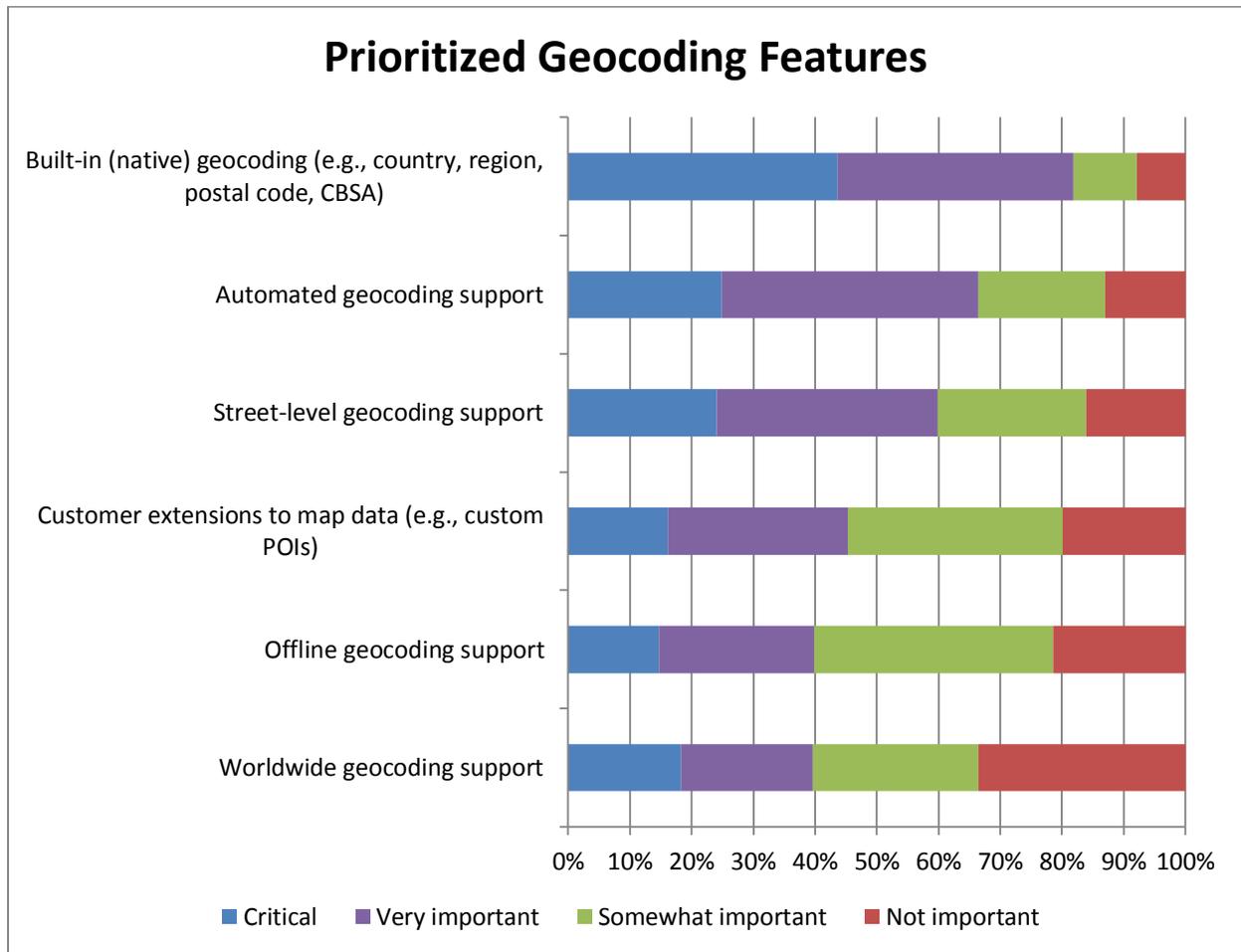


Figure 17 – Prioritized geocoding features

Year-over-year interest in geocoding increased noticeably across all measures in 2017 (fig. 18). The gains were greatest for built-in geocoding (which rose above 3.0 to a level of "important") and automated geocoding support (which moved past street-level support in 2017). (Automated support would include features like logic and a dictionary to impute details from, for example, a street address or latitude/longitude entry without additional manipulation or input.)

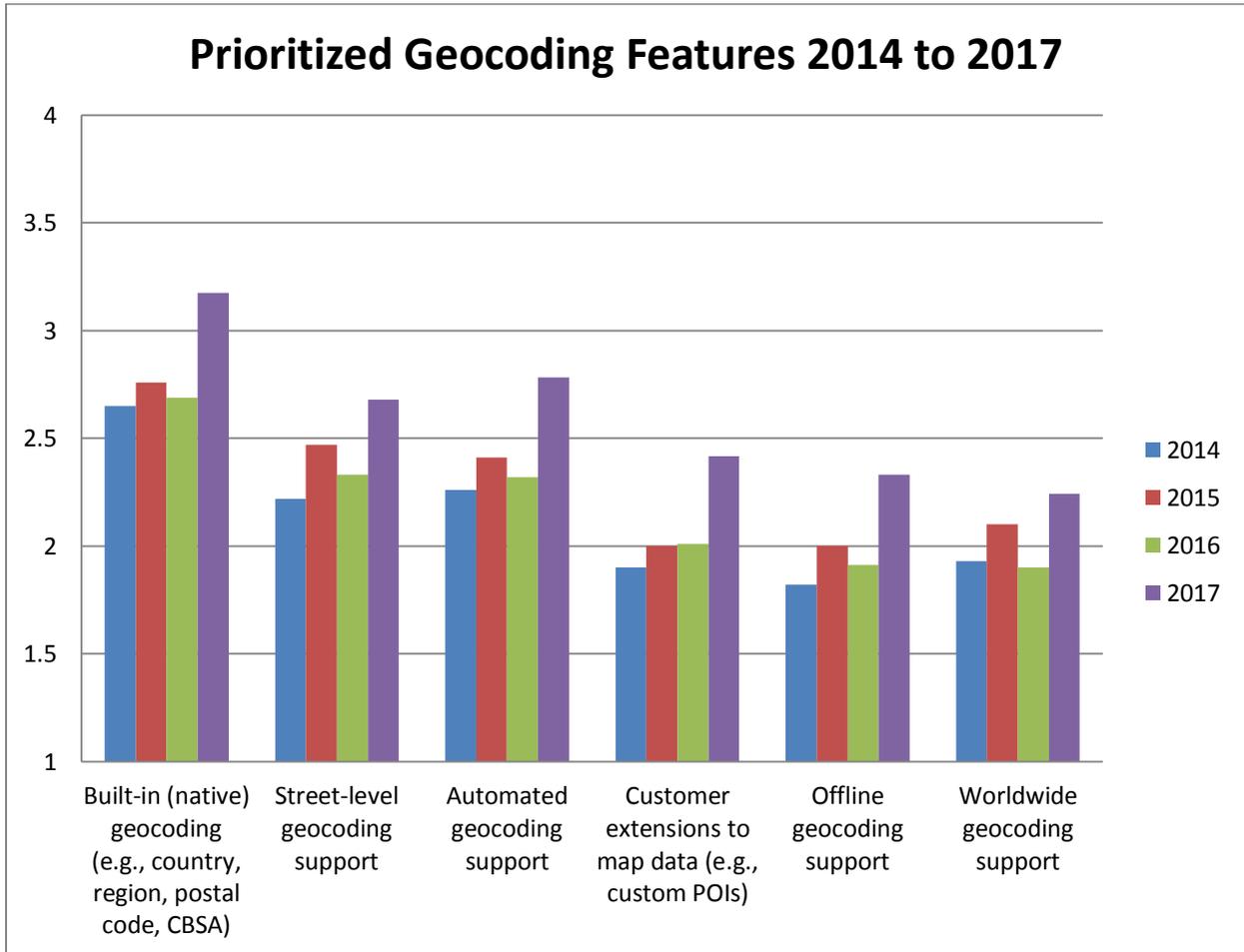


Figure 18 – Prioritized geocoding features 2014 to 2017

As with cumulative prioritization, the most prioritized feature by function in 2017 is built-in or native geocoding, where Marketing and Sales again lead interest (fig. 19). IT edges out Marketing/Sales interest in automated geocoding support; IT is also most interested in street-level geocoding and offline support. R&D leads interest in the remaining features (customer extensions, worldwide support), indicating customer demand is incipient or unsupported in these areas.

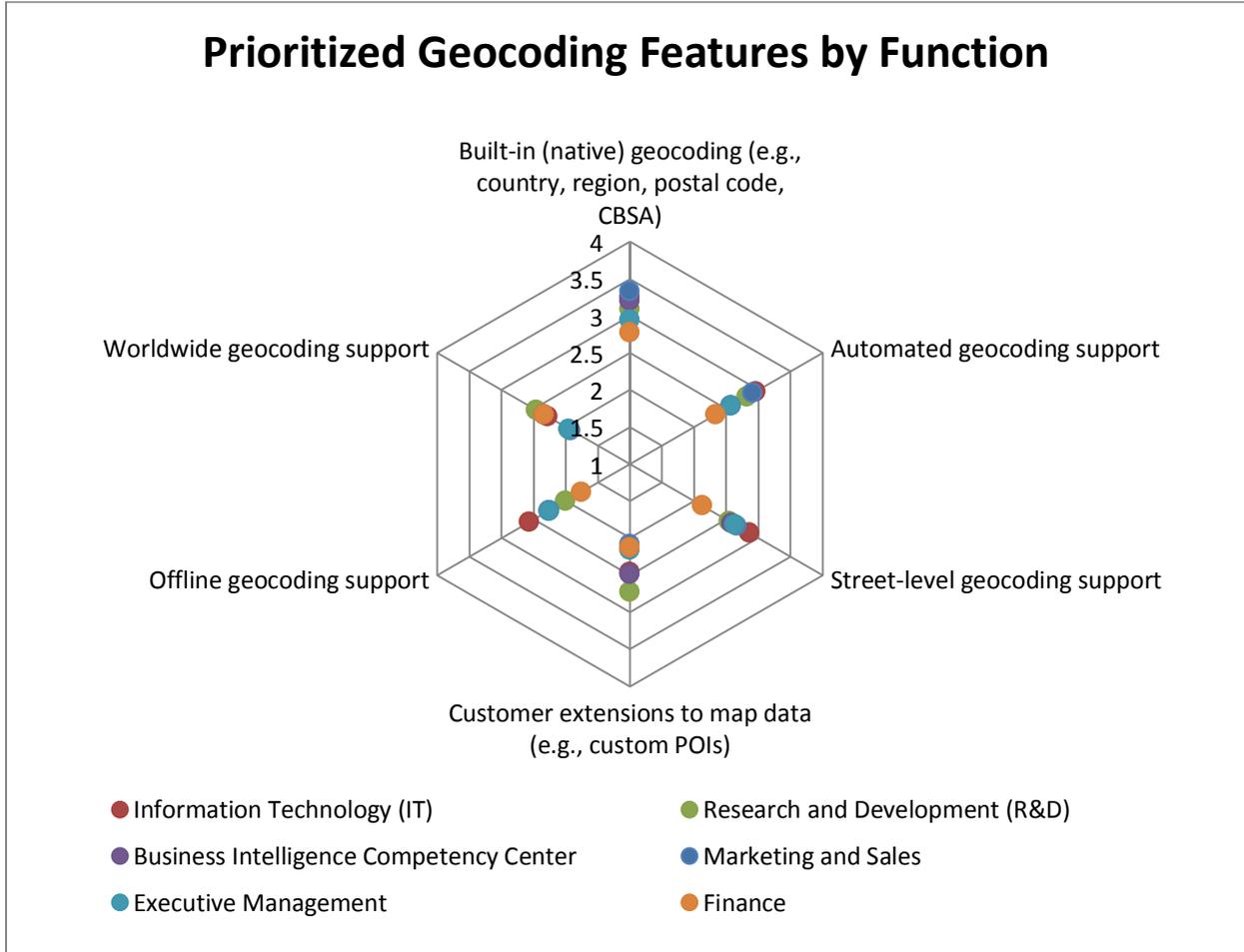


Figure 19 – Prioritized geocoding features by function

Organizations in different geographies (led by EMEA) all place the highest priority on built-in or native geocoding against country, region, or postal code information (fig. 20). At a glance, interest in geocoding features is generally highest in Asia Pacific, followed by North America and EMEA. Asia Pacific also reports markedly greater interest than other regions in customer extensions, offline support, and worldwide geocoding support. Street-level geocoding is the only feature preferred by North America over other regions.

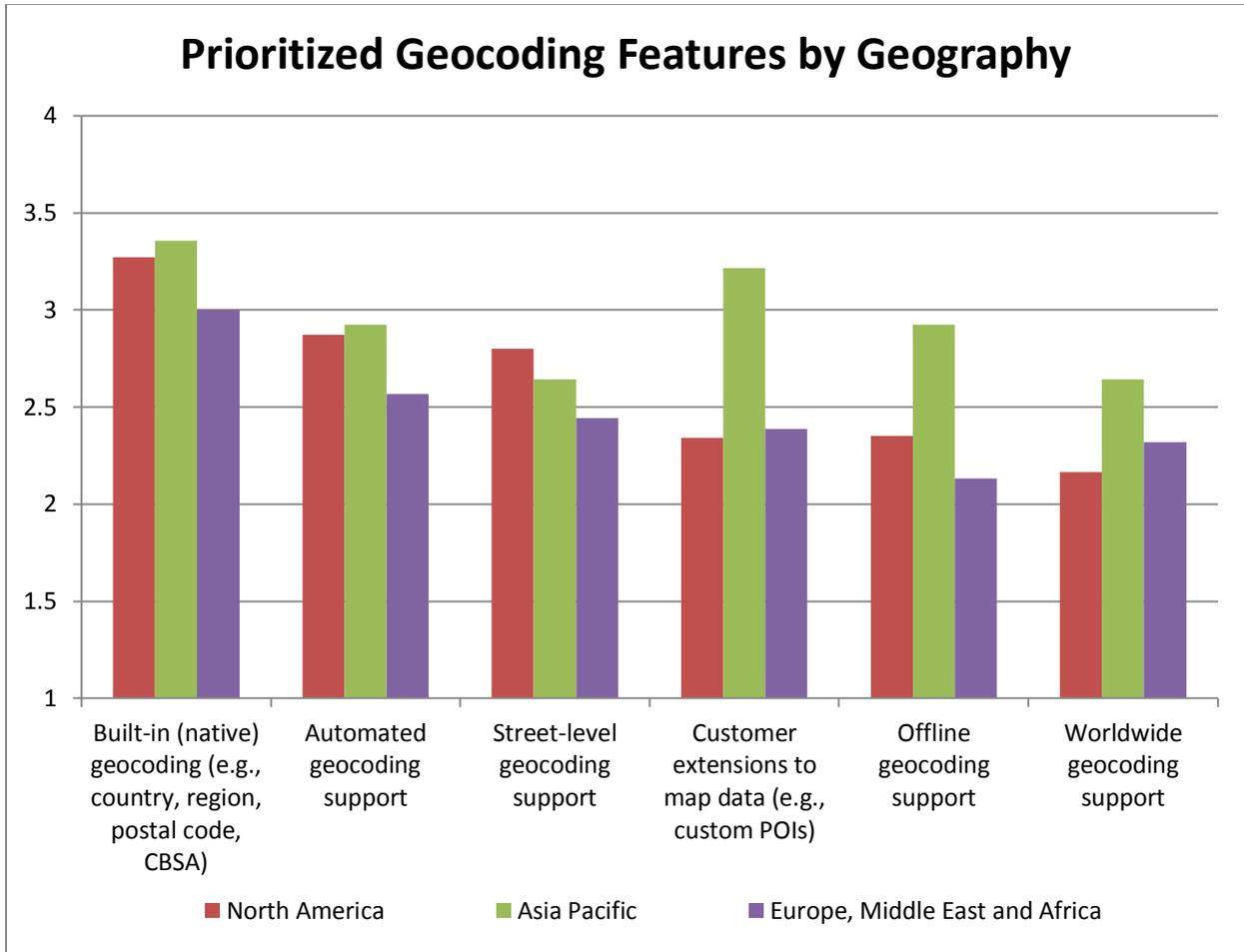


Figure 20 – Prioritized geocoding features by geography

Organizations of different sizes consistently place the highest priority on built-in or native geocoding against country, region, or postal code information (fig. 21). In 2017, mid-sized (101-1,000 employees) organizations have the most interest in built-in geocoding and automated geocoding support. Large (1,001-5,000 employees) and very large (>5,000 employees) organizations show the greatest interest in customer extensions, offline support, and worldwide geocoding support. Generally speaking, organization size does not play an overly large role in interest in geocoding features.

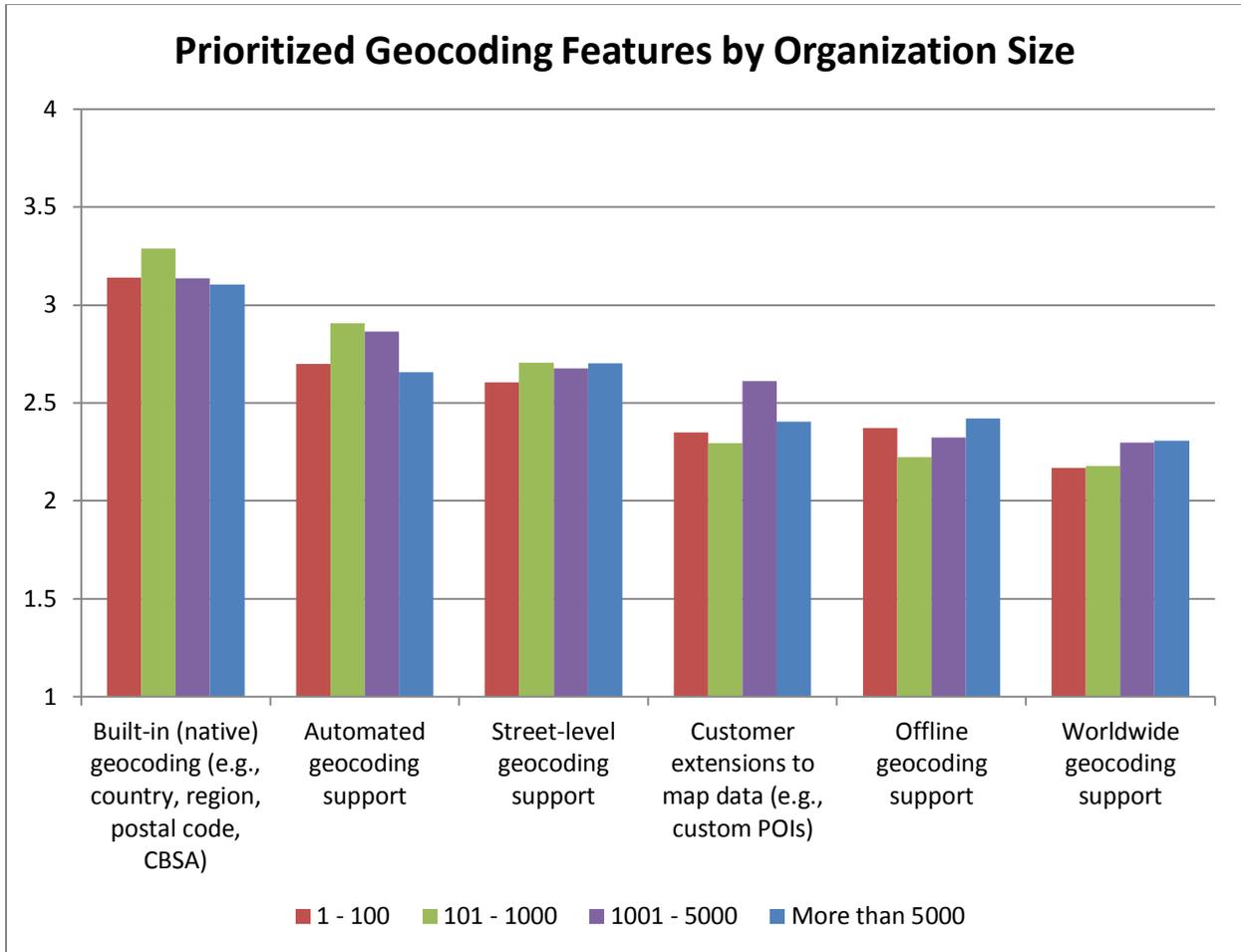


Figure 21 – Prioritized geocoding features by organization size

Viewed by industry, Financial services respondents report the greatest interest in built-in, automated, street-level, and offline geocoding feature support (fig. 22). Transportation respondents are most interested in built-in geocoding, customer extensions and worldwide support. Telecommunication respondents report above-average interest in worldwide support. Retail and Manufacturing respondents' interest is highest in built-in and automated geocoding support.

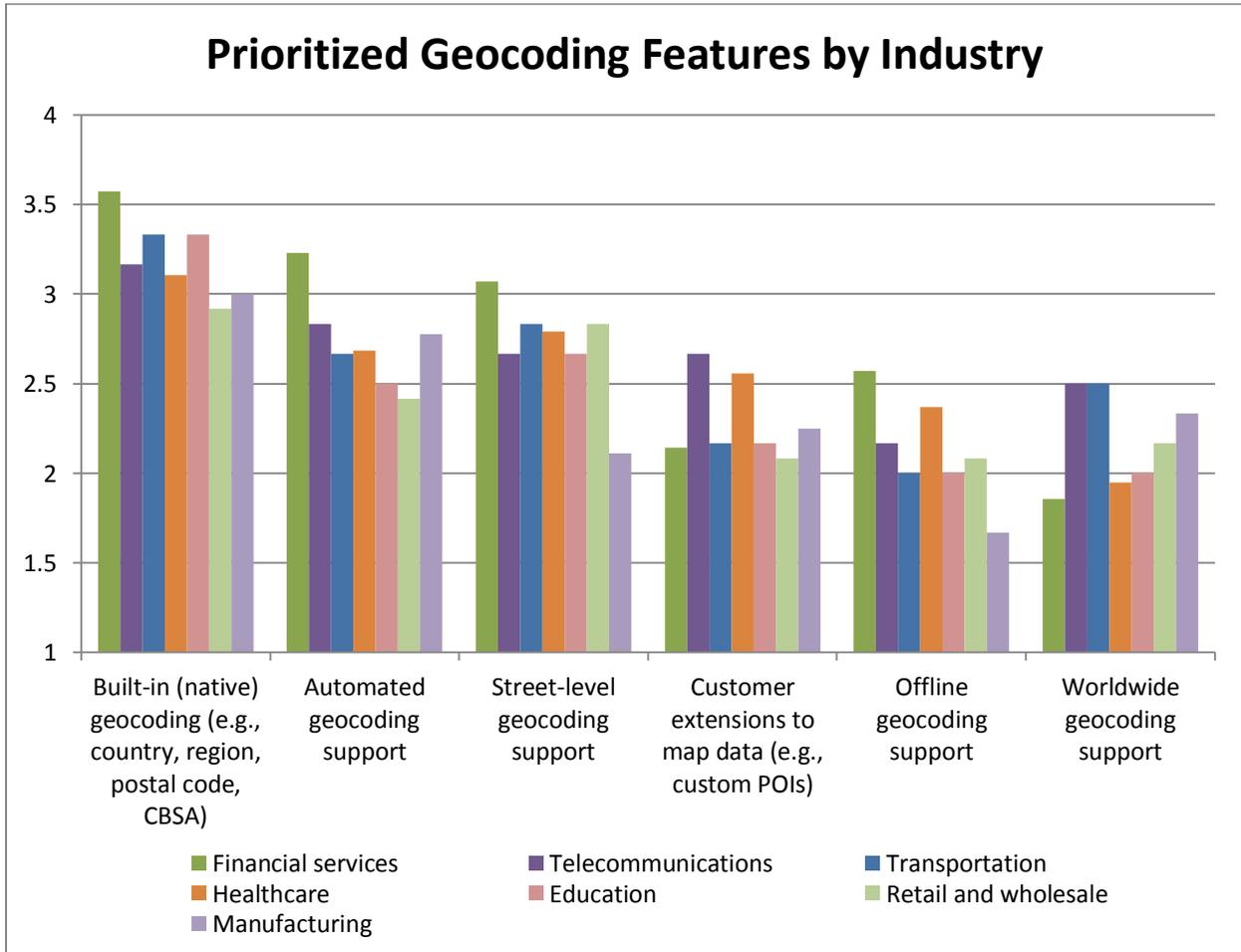


Figure 22 – Prioritized geocoding features by industry

### Location Intelligence Users

Managers are the most targeted users of location intelligence in 2017, which in part speaks to the operational nature of the technology (fig. 23). Middle managers are frequent or occasional targets more than 80 percent of the time. Individual contributors and line managers are frequent or occasional users between 70 and 80 percent of the time. This targeting comes at the expense of executives, traditionally a first-served audience (and the most-served group in our earlier studies), which may indicate increasing/maturing penetration of location intelligence. Customers and suppliers are relatively low priorities.

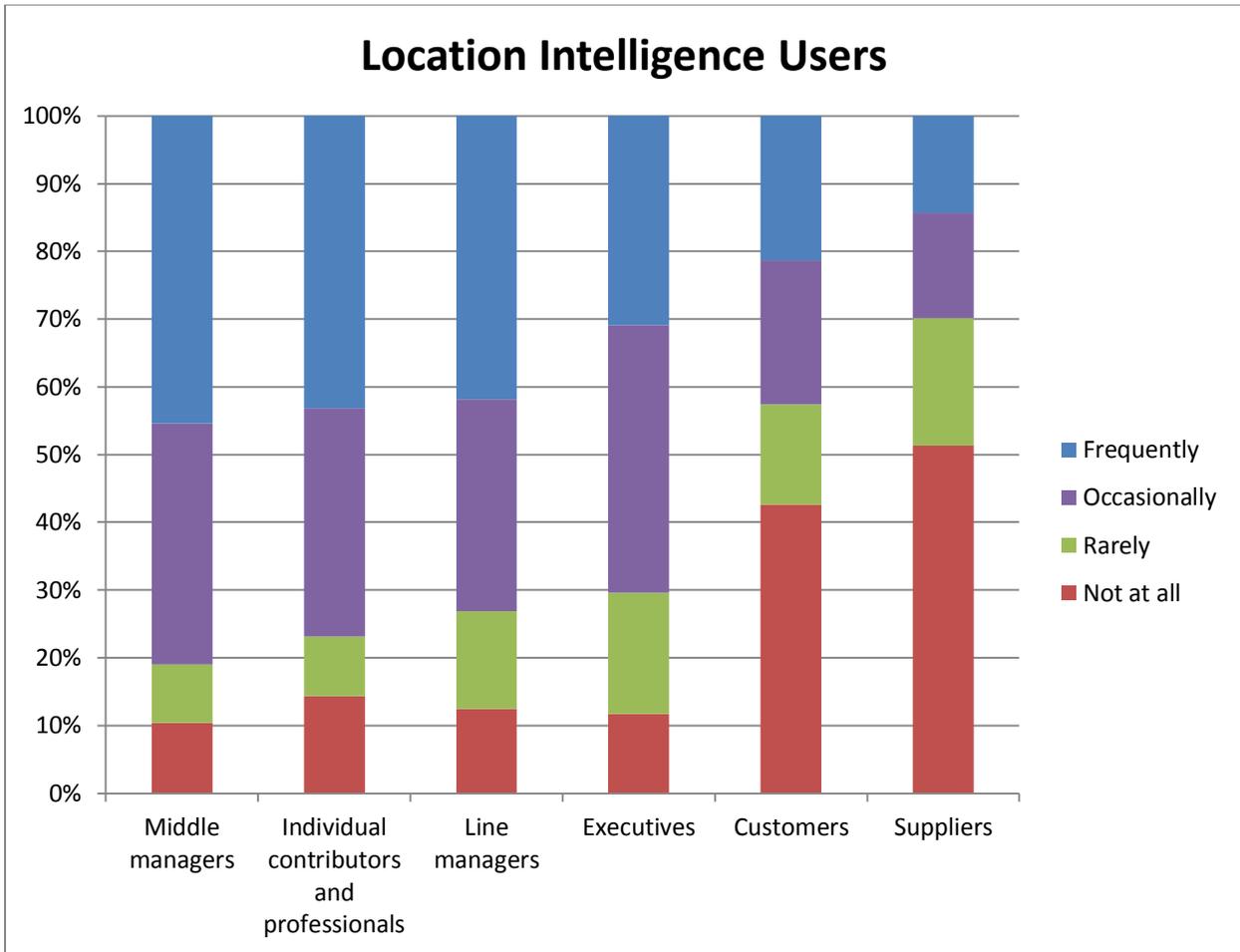


Figure 23 – Location intelligence users

Targets by geography vary somewhat in 2017, reflective of regional customs and business structure (fig. 24). Middle managers are slightly more targeted in all geographies, followed by line managers or individual contributors. Asia-Pacific respondents are most enthusiastic across functions and are most likely by far to target customers and suppliers.

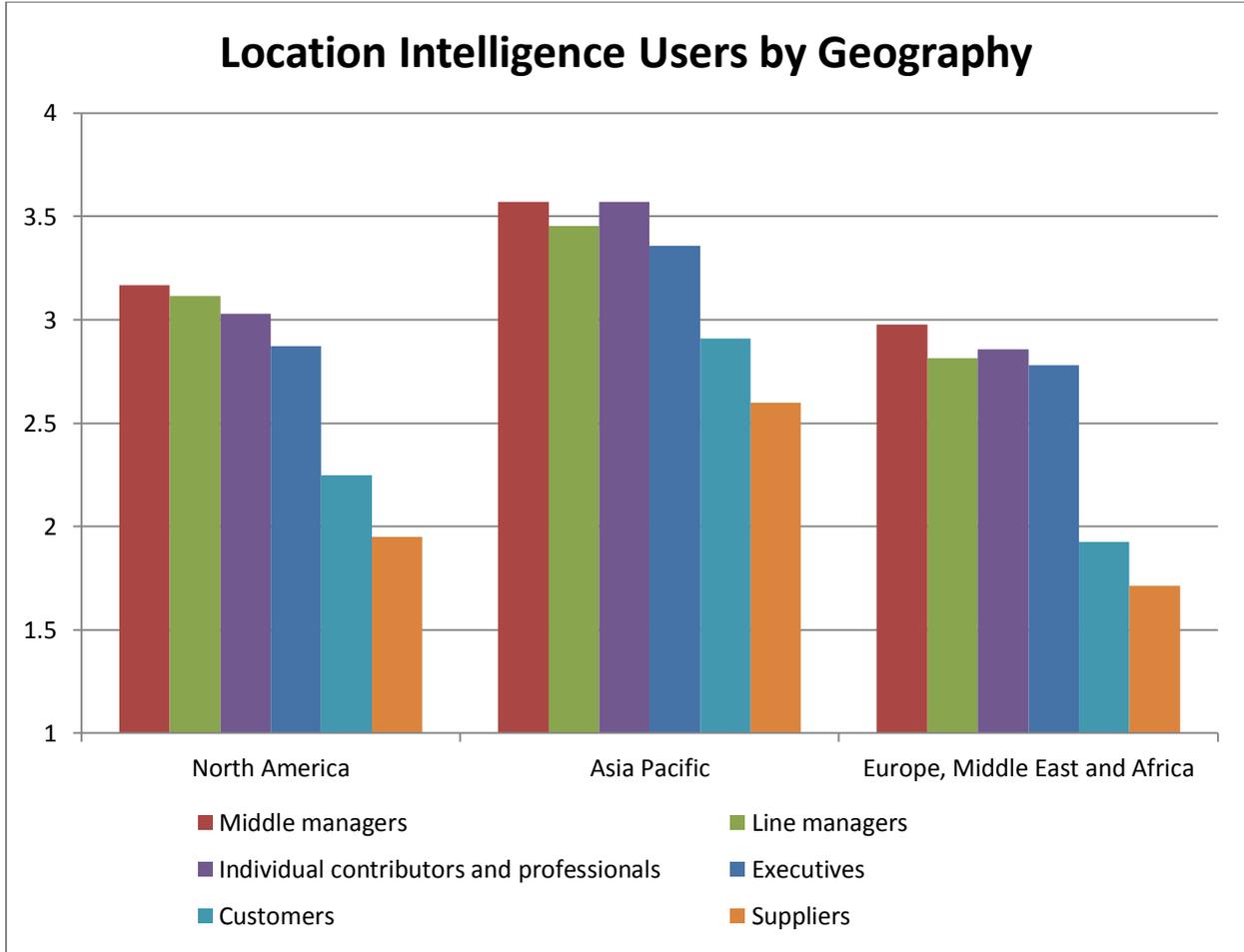


Figure 24 – Location intelligence users by geography

Across enterprises of different sizes, middle managers are usually the most likely targets for location intelligence (fig. 25). The exception is very large (>5,000 employees) organizations, where line managers and individual contributors are the most likely targets. Small (1-100 employees) organizations with thinner management ranks are most likely to target executives. Large organizations with 1,001-5000 employees are the next most likely to target executives. Small organizations are most likely to target customers and suppliers.

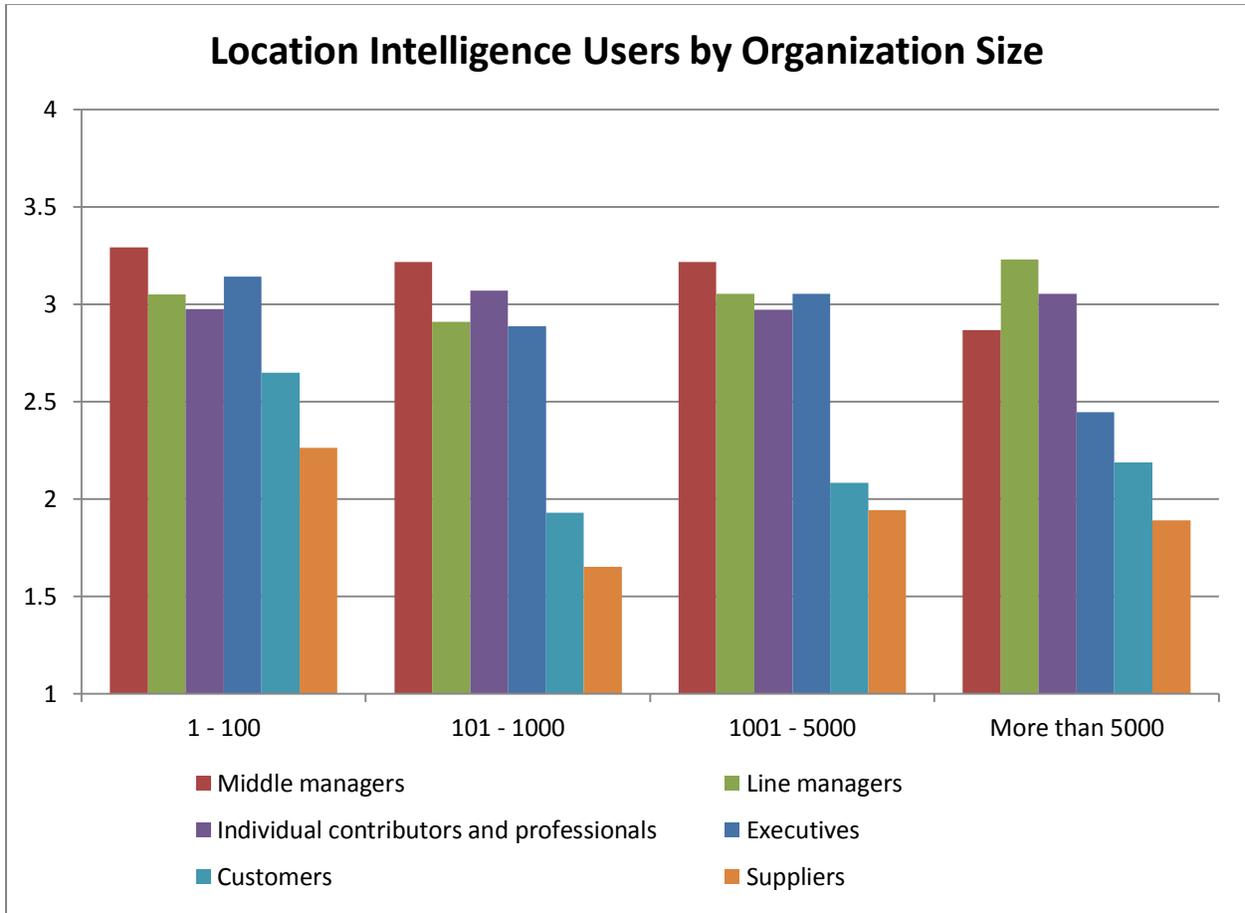


Figure 25 – Location intelligence users by organization size

The primary targets for location intelligence skew noticeably by vertical industry (fig. 26). Telecommunications and energy focus most strongly on individual contributors followed by line managers. Retail/wholesale is more likely to target line managers, while Financial services respondents are most likely to target middle managers. Healthcare, which in our previous studies focused strongly on senior management, now is more likely to target middle managers. Higher education's focus is on executives. Business services expectedly leans toward individual contributors. Automotive and Transportation respondents most often target line managers.

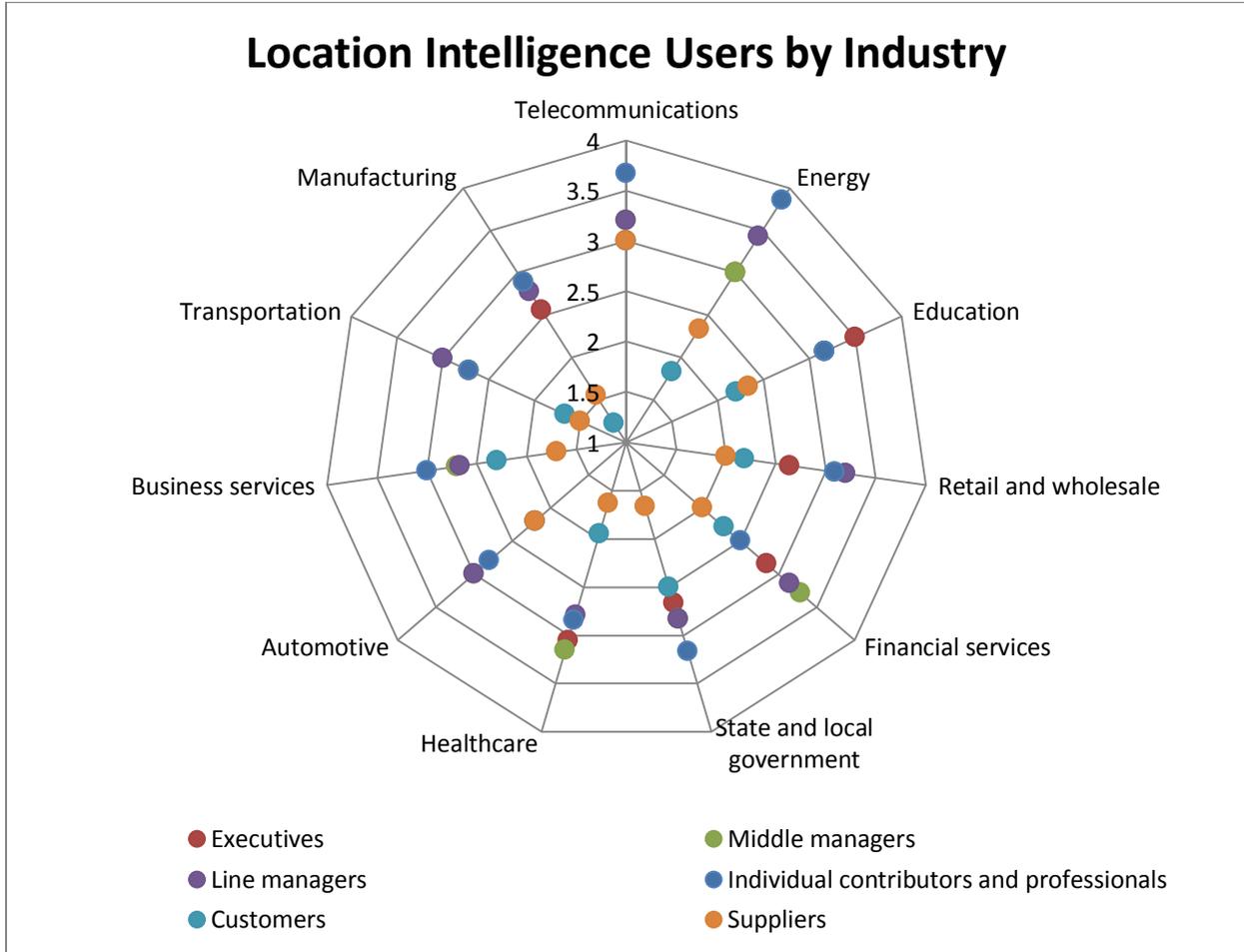


Figure 26 – Location intelligence users by industry

### Location Intelligence Features

As we found in earlier studies, the most important location intelligence features identified by respondents in 2017 are also the most conventional: map-based visualization of information, drill-down navigation that includes zoom and pan, and maps that are embedded in dashboards or other displays (fig. 27). These top three categories are at least “somewhat important” to well more than 90 percent of respondents. Layered visualizations and value/range shading are the two next most important features and are considered “critical” or “very important” by close to 70 percent or more of respondents. Integration with third-party GIS systems (e.g., Google, Esri) gained momentum compared to earlier studies and is "critical" or "very important" to nearly 70 percent of respondents.

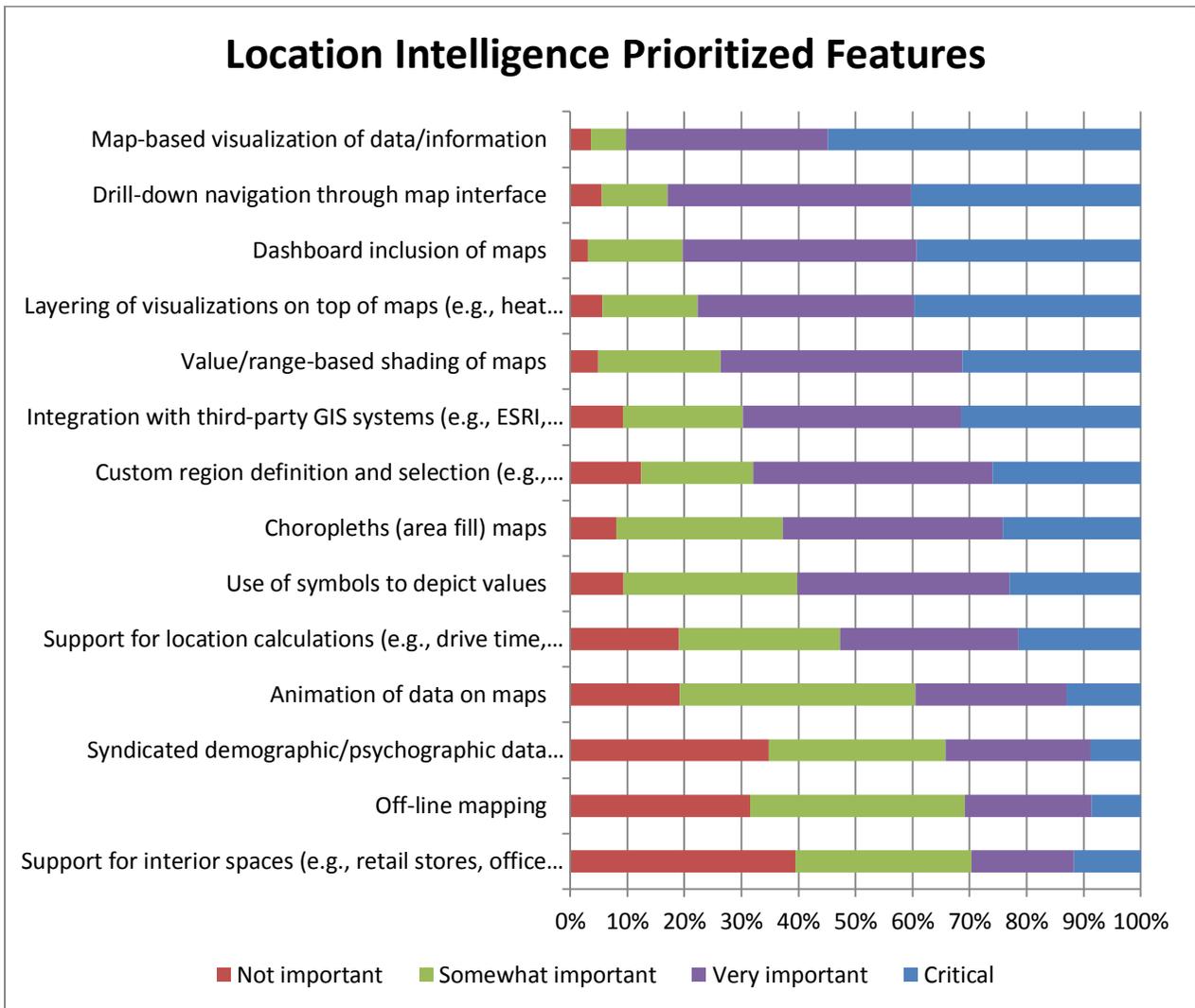


Figure 27 – Location intelligence prioritized features

Interest in location intelligence features reversed a 2016 downturn with sharp increases across all measures in 2017 (fig. 28). Map-based visualization remains the most important feature with a value of 3.4, greater than "important." Drill-down navigation, dashboard inclusion, layering of visualizations, and value/range-based shading all reached levels of "important" or greater. Integration with third-party GIS moved ahead of use of symbols to depict values; choropleths also rose in ranking.

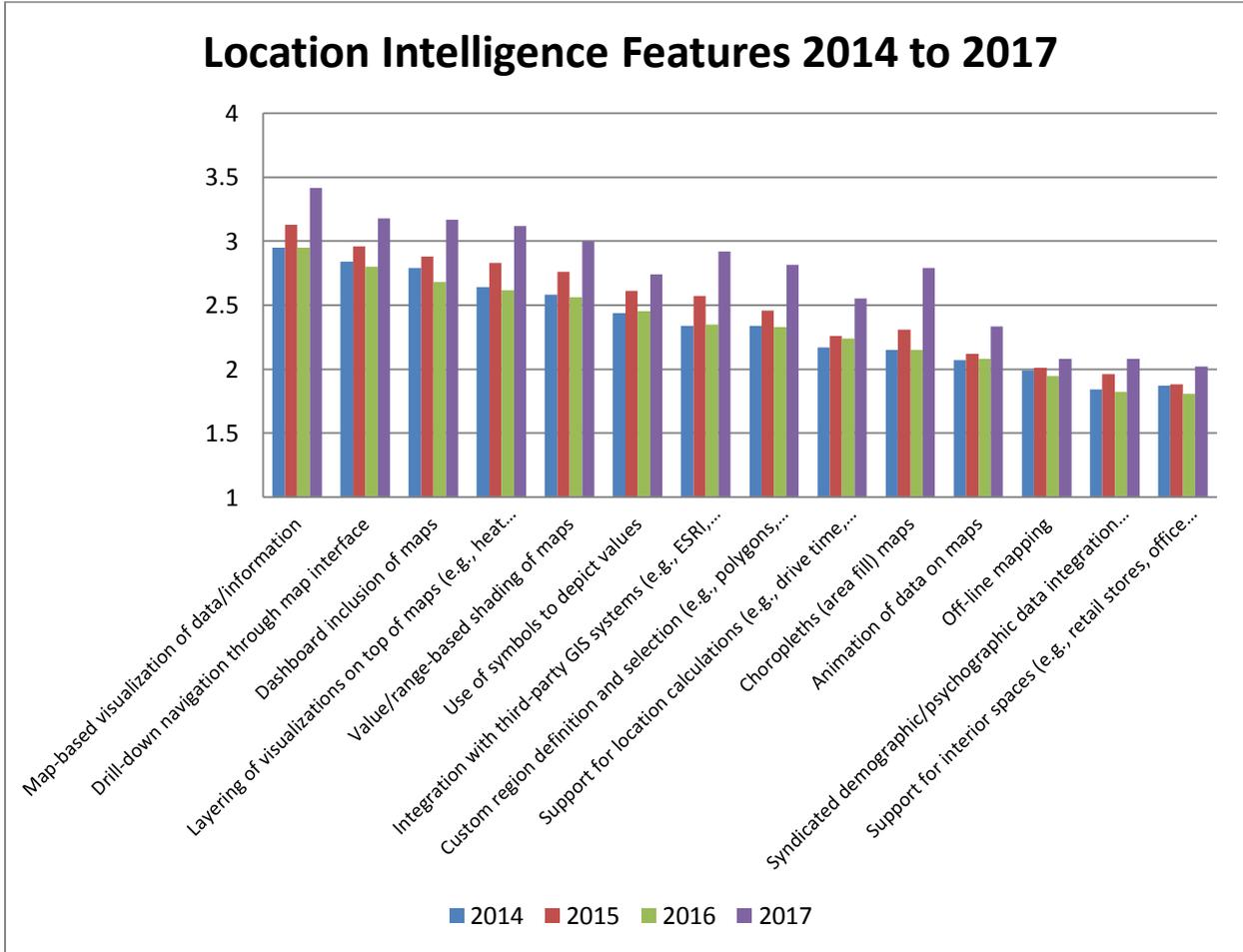


Figure 28 – Location intelligence features 2014 to 2017

By function, Marketing and Sales has the most bullish interest in map-based visualization (fig. 29) and also leads interest in choropleths (area-fill maps) and support for location calculations. The BICC is the most likely resource for the next four top features: drill down, dashboards, layered visualizations, and value/range shading. R&D places a higher priority upon integration with third-party GIS systems. IT is most interested in custom region definitions.

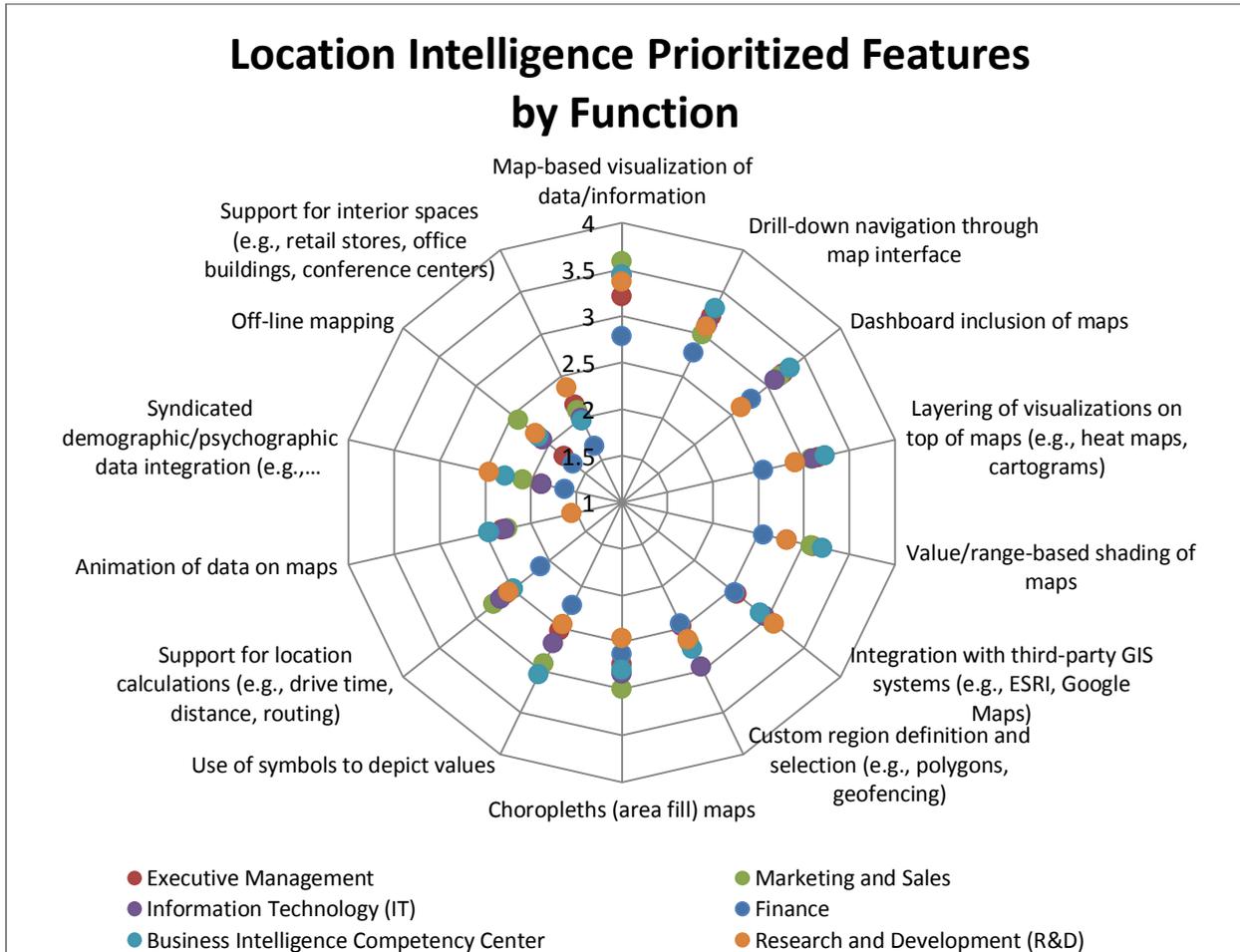


Figure 29 – Location intelligence prioritized features by function

Respondents in Asia Pacific lead interest in all location intelligence features, especially in custom region definitions, area fill maps, and animation of data on maps (fig. 30). Favorability for map-based visualization and drill-down navigation are the most tightly clustered across geographies. EMEA respondents trail North American respondents in all areas with the exception of integration with third-party GIS systems.

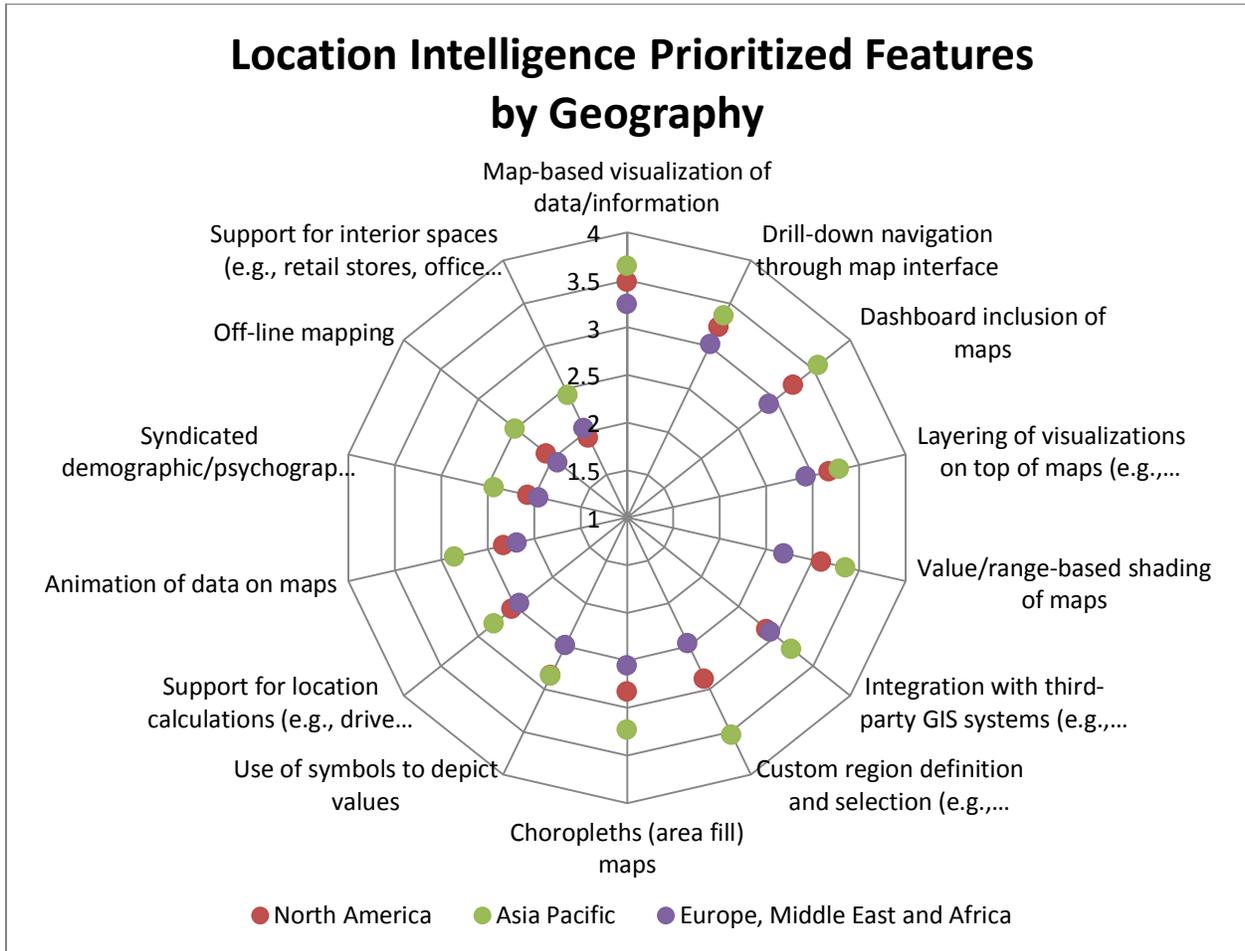


Figure 30 – Location intelligence prioritized features by geography

Organizations of different sizes have varying interest in location intelligence features, though many results are tightly clustered (fig. 31). Map-based visualizations have common appeal across different-sized organizations. Where larger organizations are slightly more interested in drill-down navigation, small organizations (1-100 employees) have the highest interest in dashboards. Mid-sized (101-1,000 employees) organizations lead interest in layering of visualizations and value/range-based shading. Very large (>5,000 employees) organizations are most concerned with third-party GIS systems and custom region definition.

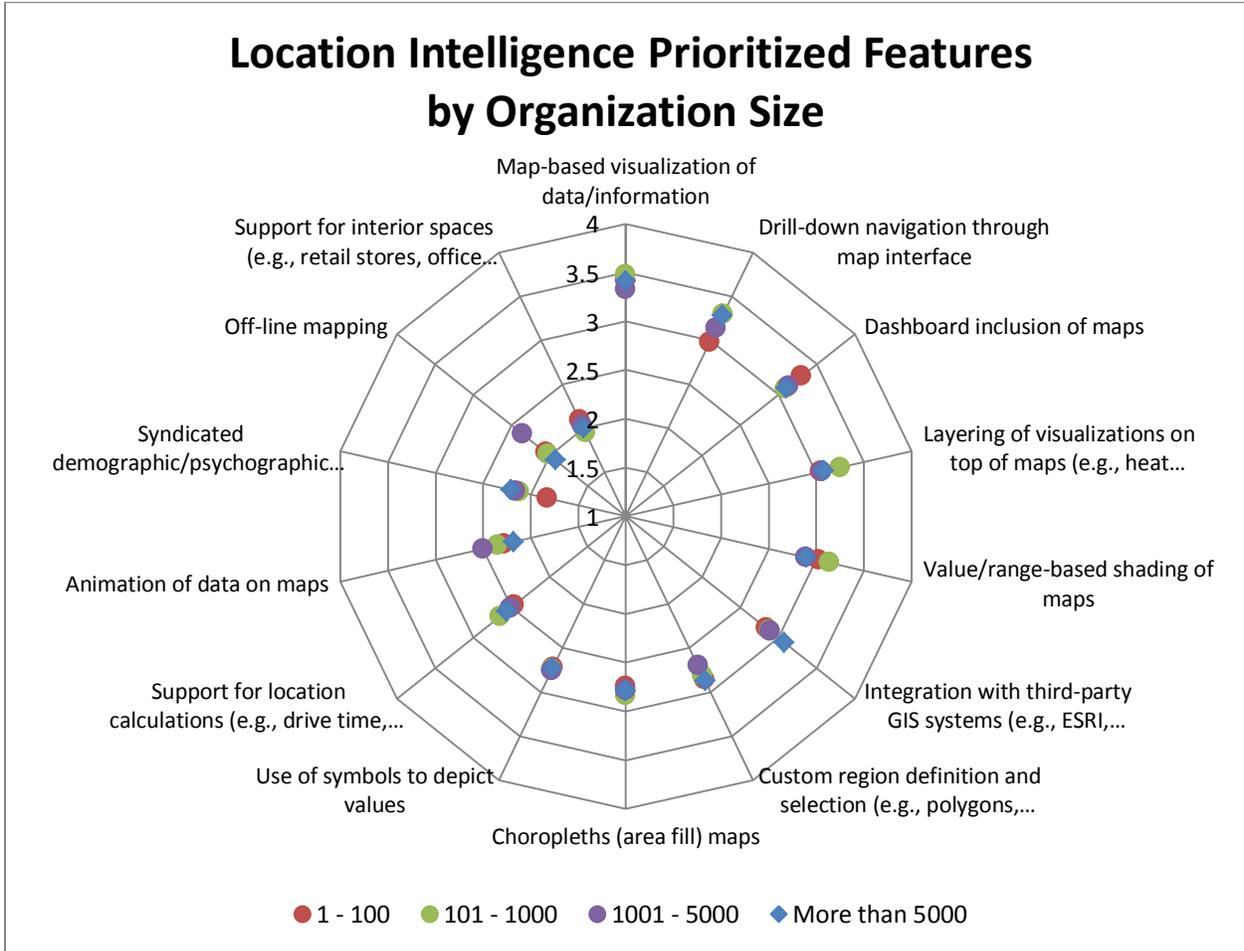


Figure 31 – Location intelligence prioritized features by organization size

In our 2017 sample, the energy sector is a standout among industries with interest in location intelligence features (fig. 32). This includes top features of map-based visualization and drill-down navigation but is most pronounced in layering of visualizations, value/range-based shading, integration with third-party GIS, custom region definition and support for location calculations. Telecommunications reports the most interest in dashboard inclusion of maps. Healthcare has slightly more interest in choropleths (area fill maps), perhaps in pursuit of asset management or population health studies.

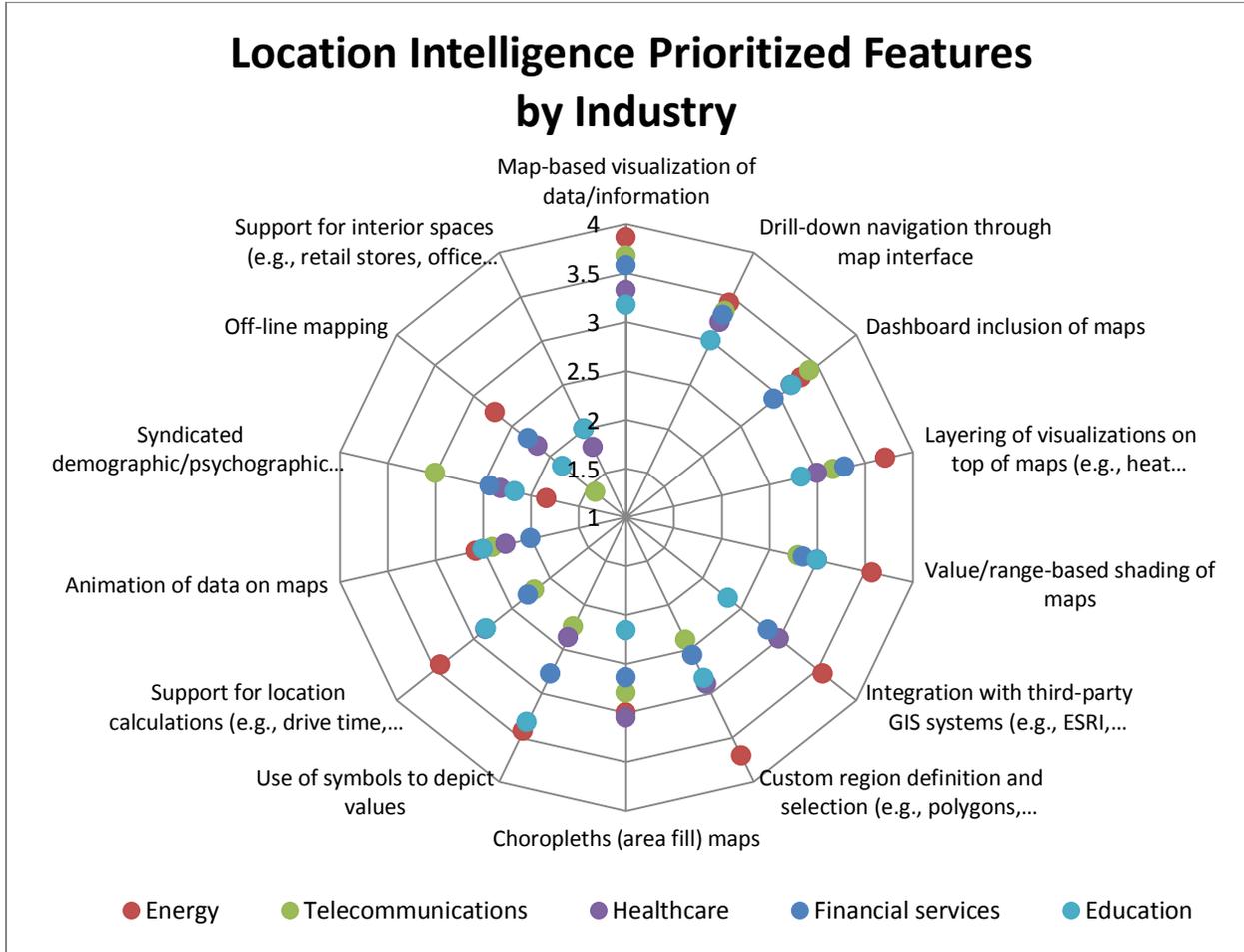


Figure 32 – Location intelligence prioritized features by vertical industry

### Location Intelligence User Penetration

Location intelligence penetration remains modest in 2017, though respondents describe significant growth plans (fig. 33). Today, 59 percent of respondents report less than 10 percent penetration and only 6 percent report the highest level of penetration. Twelve-month plans (the most dependable and likely to be budgeted) call for reducing the lowest penetration to about 30 percent and more than doubling 11 to 20 percent and 41 to 60 percent penetration levels. Forecasts for 24 and 36 months call for extended growth of higher levels of penetration.

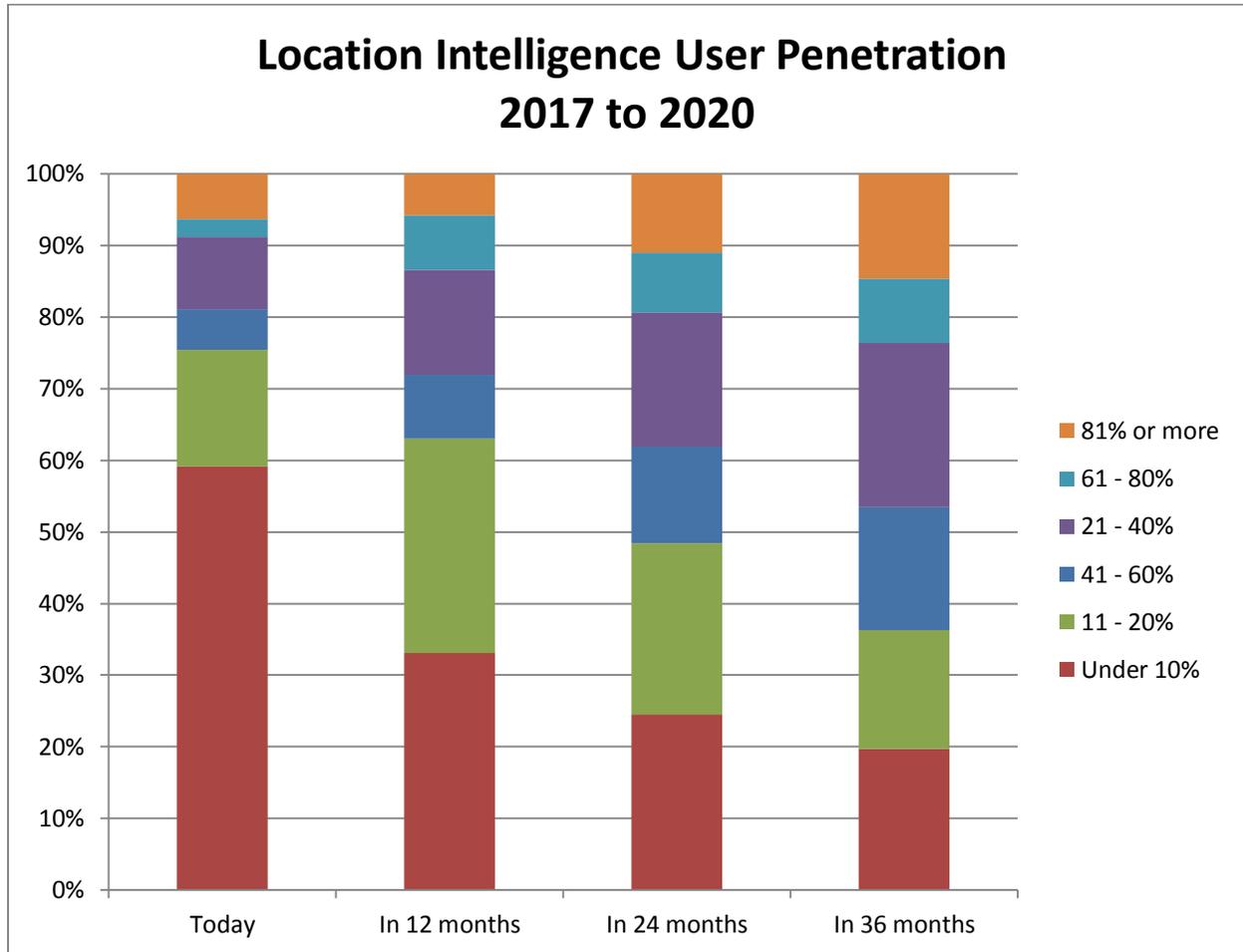


Figure 33 – Location intelligence user penetration 2017 to 2020

Across four years of data, we have seen steady if somewhat modest improvements in location intelligence penetration (fig. 34). Since 2014, the lowest level (<10 percent) decreased annually from 74 percent to 59 percent while 11 to 20 percent penetration increased from 9 percent to 20 percent. Higher levels of penetration have not fared as well over time. 2017 respondents reported a modest spike at the 21 to 40 percent level and a modest increase at 81 percent or more but saw modest declines at other high levels of penetration.

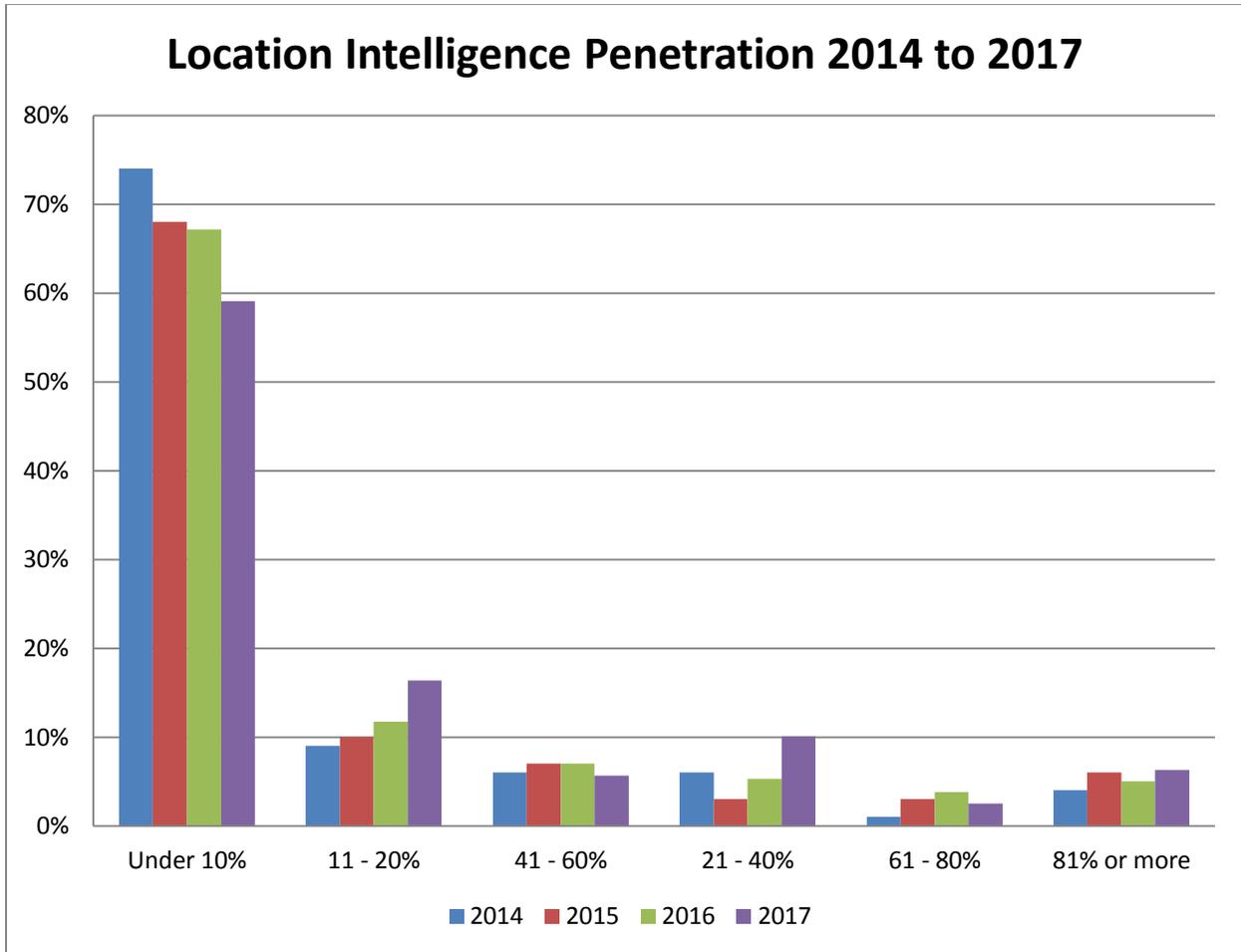


Figure 34 – Location intelligence penetration 2014 to 2017

User penetration is expected to improve across all functions in the coming time frames (fig. 35). The greatest 12-month improvements will occur in Executive Management, indicating leadership is on board and willing to drive future penetration of location intelligence. While Marketing and Sales are among early adopters (after executives) longer-term plans are somewhat muted. R&D, BICC, and IT functions appear to be getting on board with location intelligence. This is in contrast to the Finance function with very limited adoption or future plans.

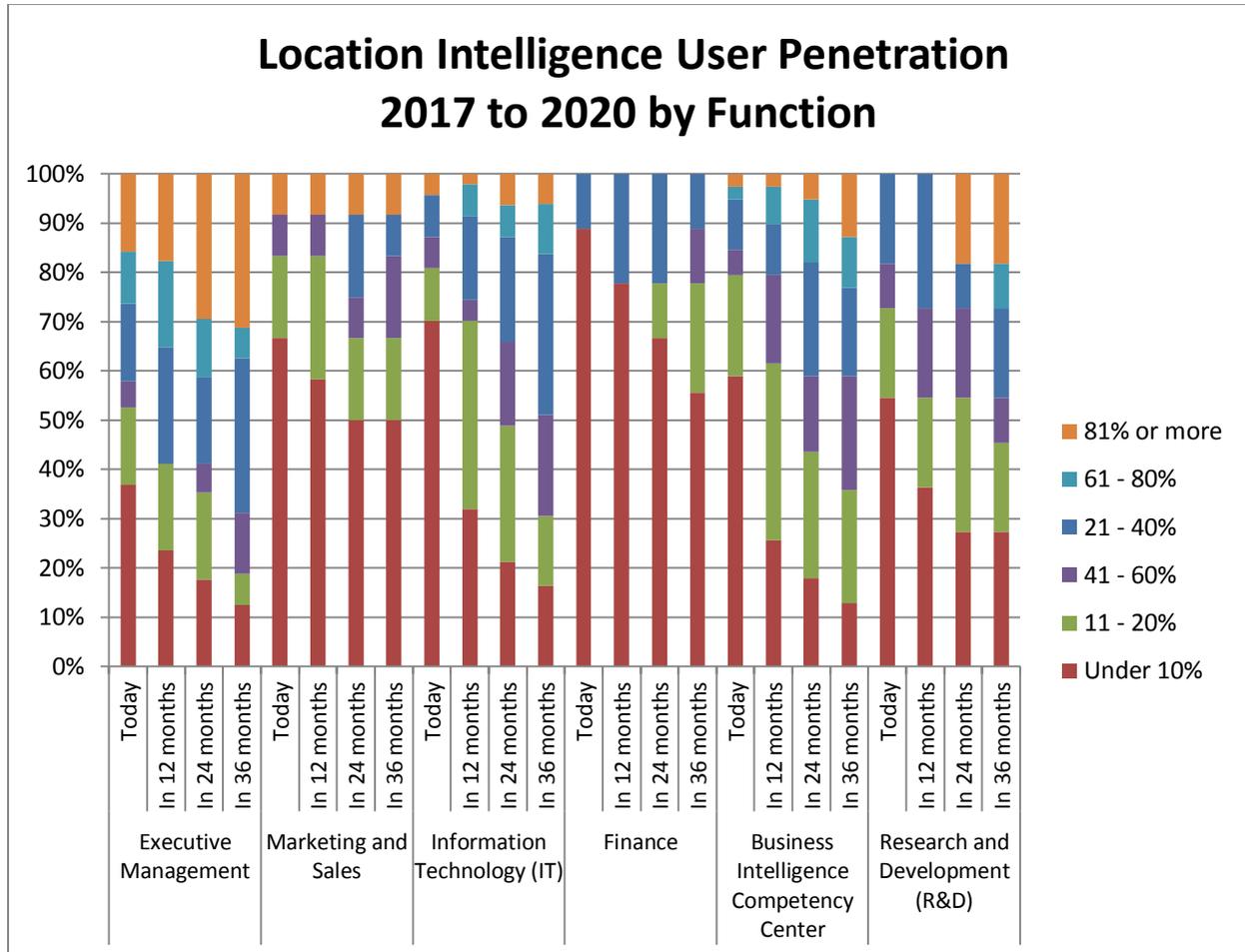


Figure 35 – Location intelligence user penetration 2017 to 2020 by function

By geography, Asia-Pacific respondents report the greatest current penetration of location intelligence products and services (fig. 36). This finding comes despite the fact that North American respondents generally prioritize location intelligence to a greater degree than in Asia Pacific (fig. 9, p. 21). Asia-Pacific respondents also will see the highest levels of future penetration, with 50 percent of organizations reaching the two highest penetration levels in three years. EMEA uniformly trails North America in current and future penetration levels, perhaps due in part to the different border and regulation challenges across geographies.

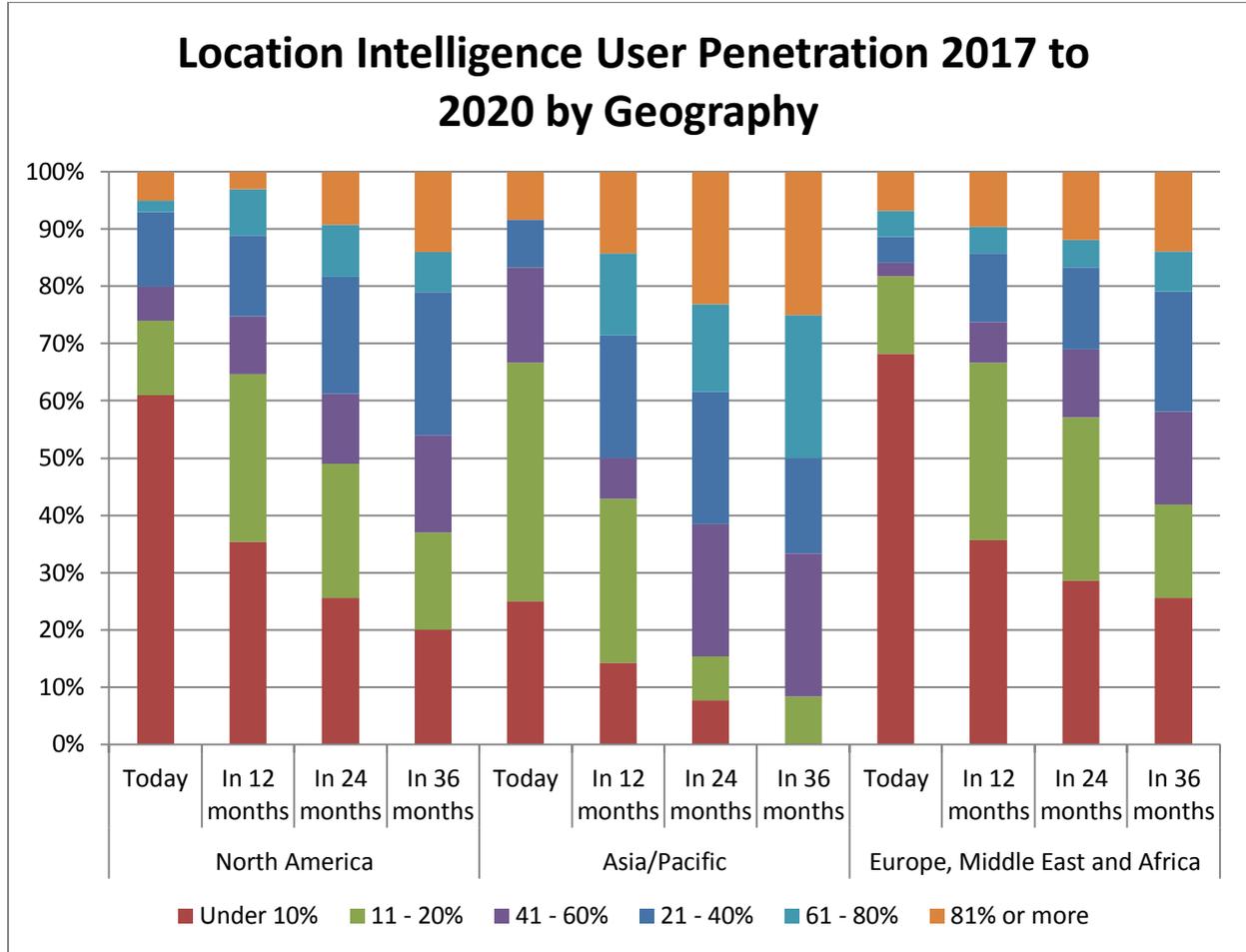


Figure 36 – Location intelligence user penetration 2017 to 2020 by geography

Organizations of different sizes all expect location intelligence penetration levels to increase consecutively in coming time frames (fig. 37). Small (1-100 employees) organizations claim the highest current levels of penetration, a likely finding among low headcount groups. Small organizations also have consistently higher penetration expectations than mid-sized and large/very large organizations. Mid-sized (101-1,000 employees) organizations are the next most penetrated and also have strong future plans to increase their base of location intelligence users. Very large (>1,000 employees) organizations are the least penetrated today (by percentage of employees), an expected finding that we expect will decrease sharply in 12-month and extended future time frames.

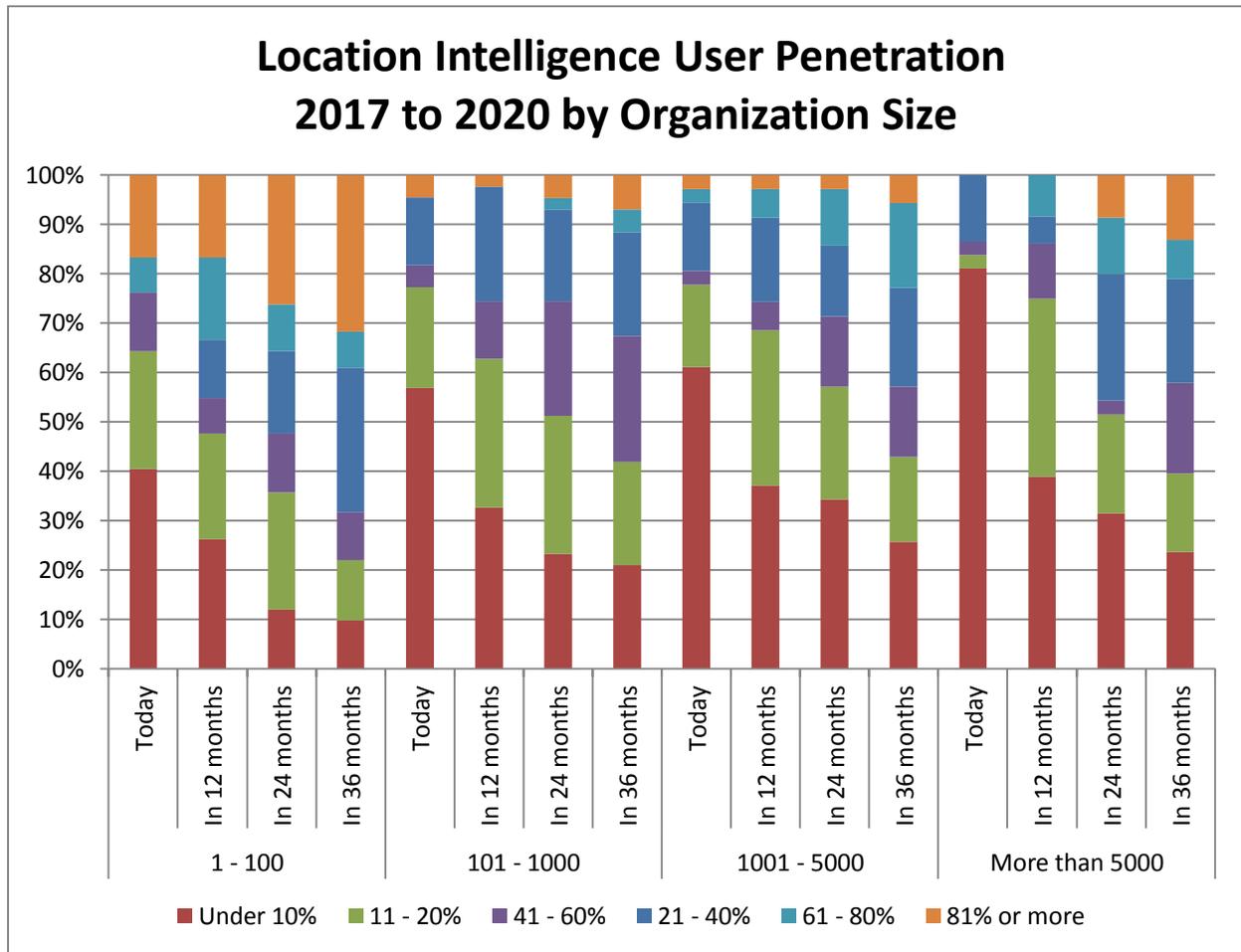


Figure 37 – Location intelligence user penetration 2017 to 2020 by organization size

By industry, respondents in Transportation report the highest current uptake of location intelligence (fig. 38). Retail/wholesale is the next most penetrated and has the most aggressive plans for dramatic levels of penetration within three years. Energy, which leads our survey in perceived criticality (fig. 11, p. 23) is more sanguine about future prospects, perhaps indicating that current use cases in core operational processes are being addressed. Telecommunications respondents expect little 12-month improvement but predict higher penetration in longer time frames.

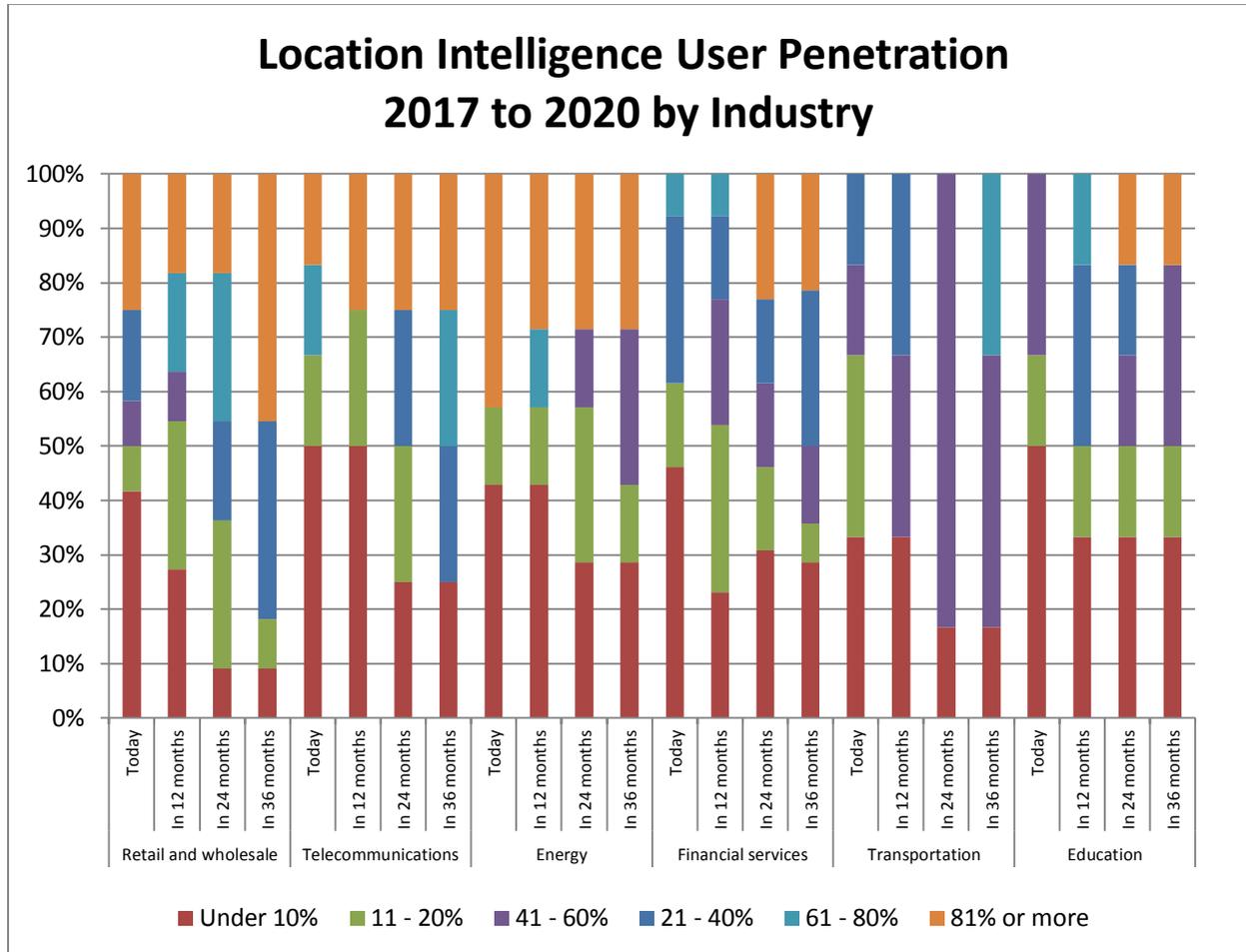


Figure 38 – Location intelligence user penetration 2017 to 2020 by industry

### Cloud-Based Versus On-Premises Deployment of Location Intelligence

In our 2017 study, we asked respondents to describe the criticality of cloud-based versus on-premises adoption of location intelligence (fig. 39). By margins of a few percentage points, respondents are more likely to prefer on-premises deployment but clearly are not daunted by the prospects for cloud-based deployment. Over time, we expect prospects for both deployment models to remain intact and for cloud-based favorability to increase.

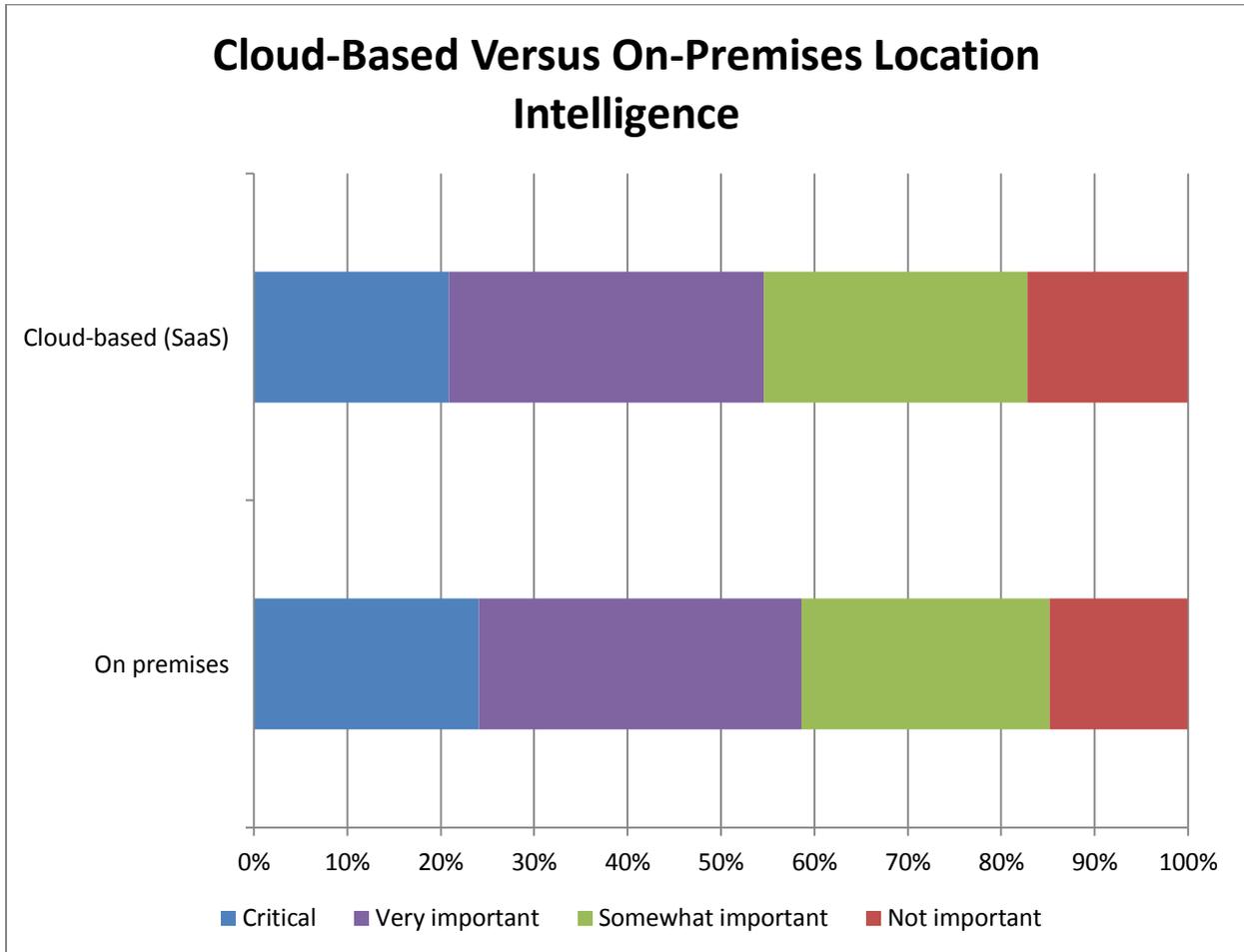


Figure 39 – Cloud-based versus on-premises location intelligence

Interest in cloud versus on-premises location intelligence varies interestingly by geography (fig. 40). As we might expect, Asia-Pacific respondents are more likely to prefer cloud-based (SaaS) deployment. EMEA respondents are almost evenly divided in their attitudes toward both deployment models. North American respondents are more likely to prefer on-premises deployments, which may refer in part to existing legacy investments that are initially more likely to be in house.

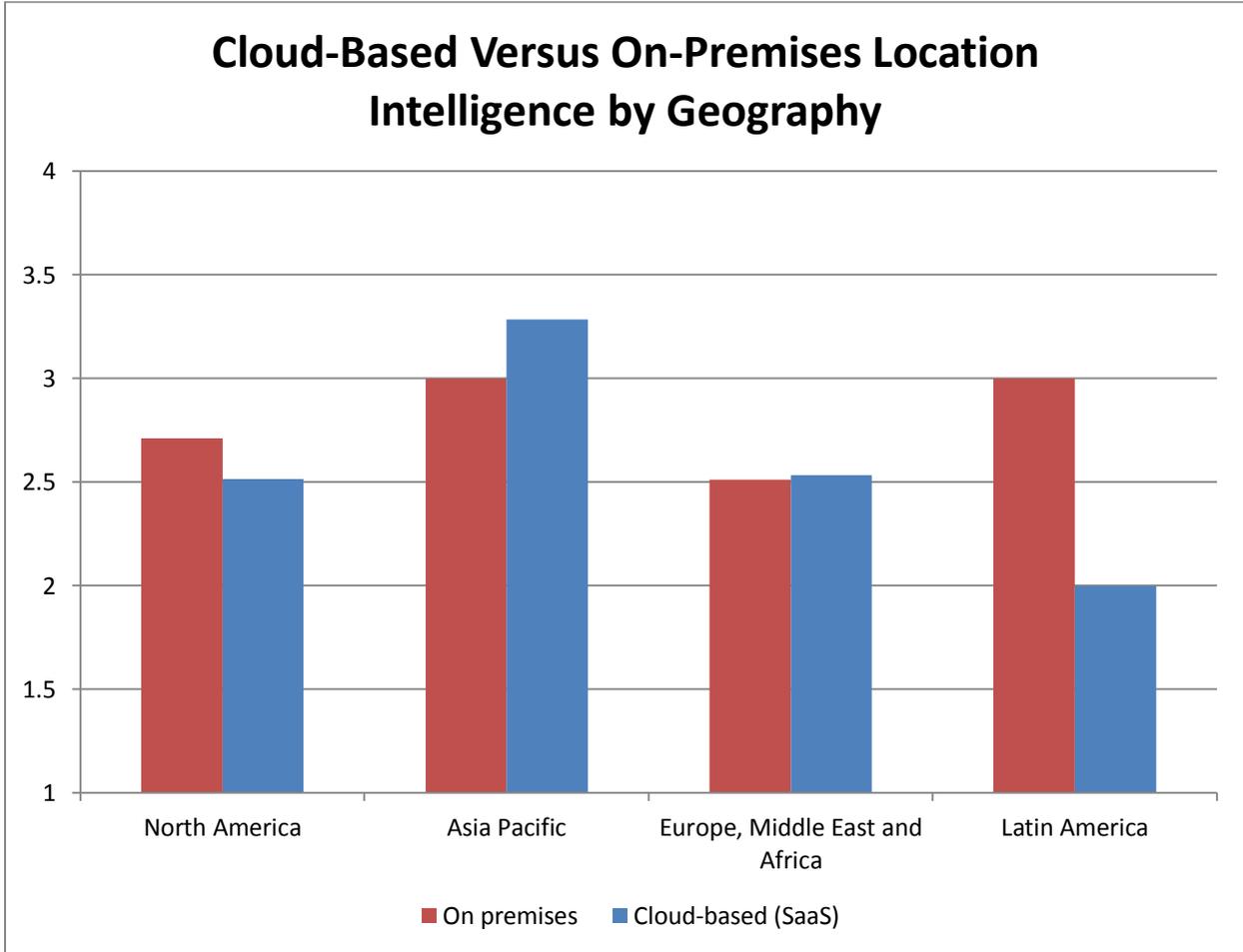


Figure 40 – Cloud-based versus on-premises location intelligence by geography

By function, executive management is most interested in cloud-based deployments of location intelligence and gives cloud its highest criticality ranking of 3.0, or "important" (fig. 41). Perhaps by executive fiat, R&D is also currently aligning more toward cloud-based deployment. All other functions currently report a preference for on-premises deployment, perhaps in service of familiarity and existing investments.

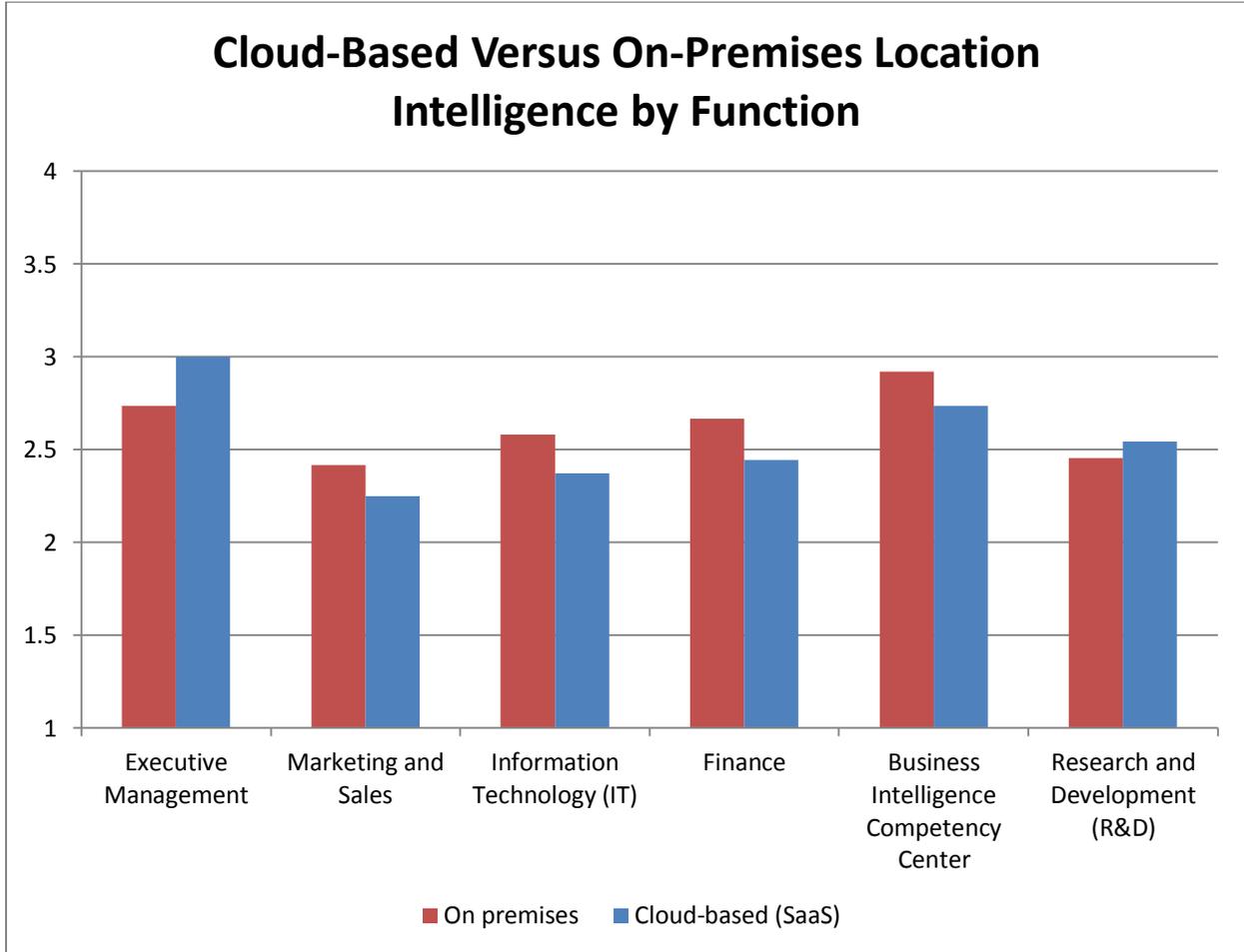


Figure 41 – Cloud-based versus on-premises location intelligence by function

By industry, we would expect the most penetrated verticals to favor existing deployment models, which in first-mover form are more likely to be on premises. In that regard, respondents in State/local government, Energy, Education, Healthcare, Automotive and Transportation industries all have the highest bias toward on-premises deployment (fig. 42). Business services is especially more likely to offer or use cloud-based location intelligence as are telecommunication respondents. Even the highly regulated Financial services industry reports slightly greater favorability toward cloud/SaaS deployment.

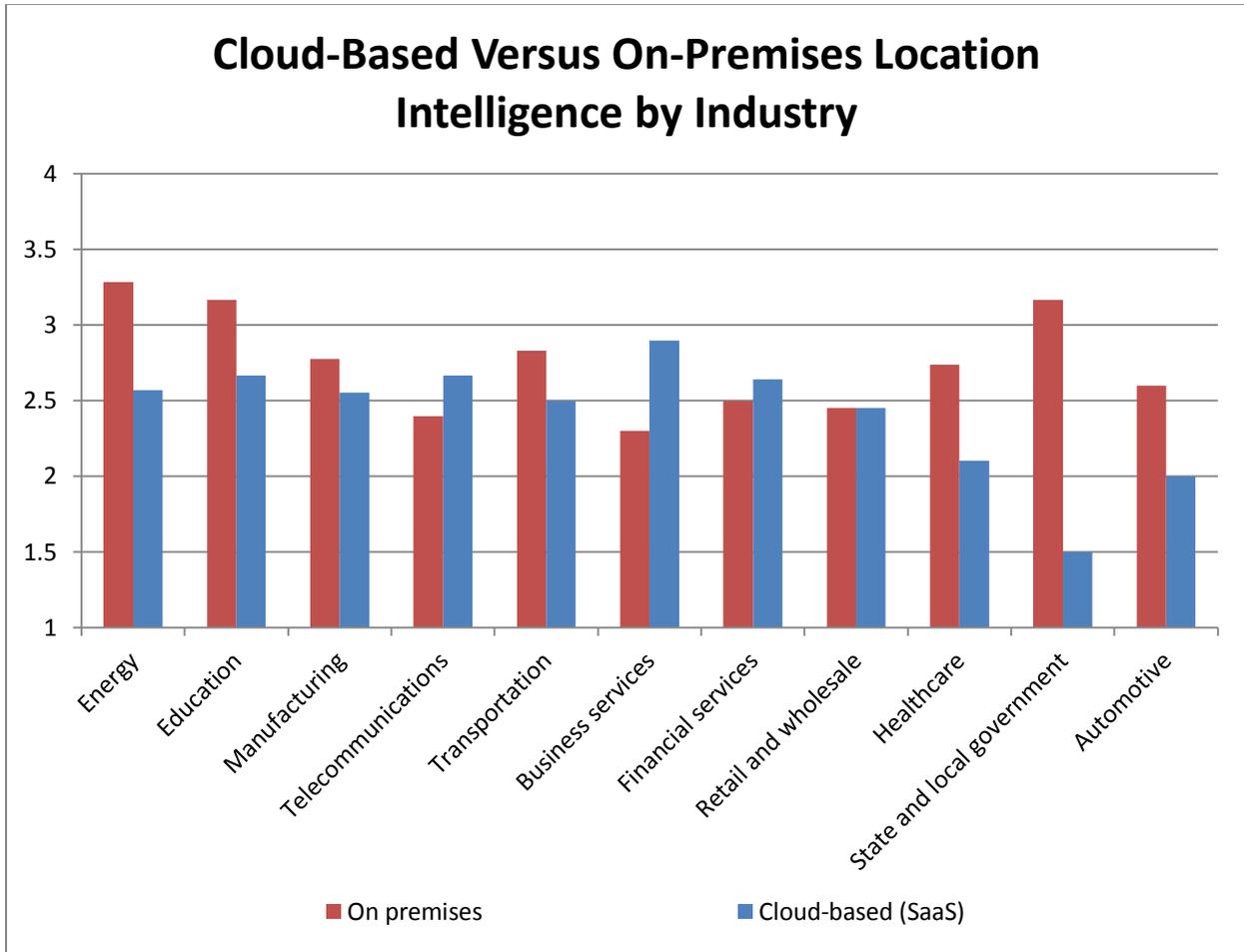


Figure 42 – Cloud-based versus on-premises location intelligence by industry

Favorability toward on-premises versus cloud-based use of location intelligence varies strongly, predictably, and even linearly by organization size (fig. 43). Small organizations, with expense and infrastructure in mind, are much more likely (criticality > 3.0 = "important") to choose cloud-based location intelligence. As organization size increases, so typically does experience and infrastructure in place to support on-premises deployments of location intelligence products and services.

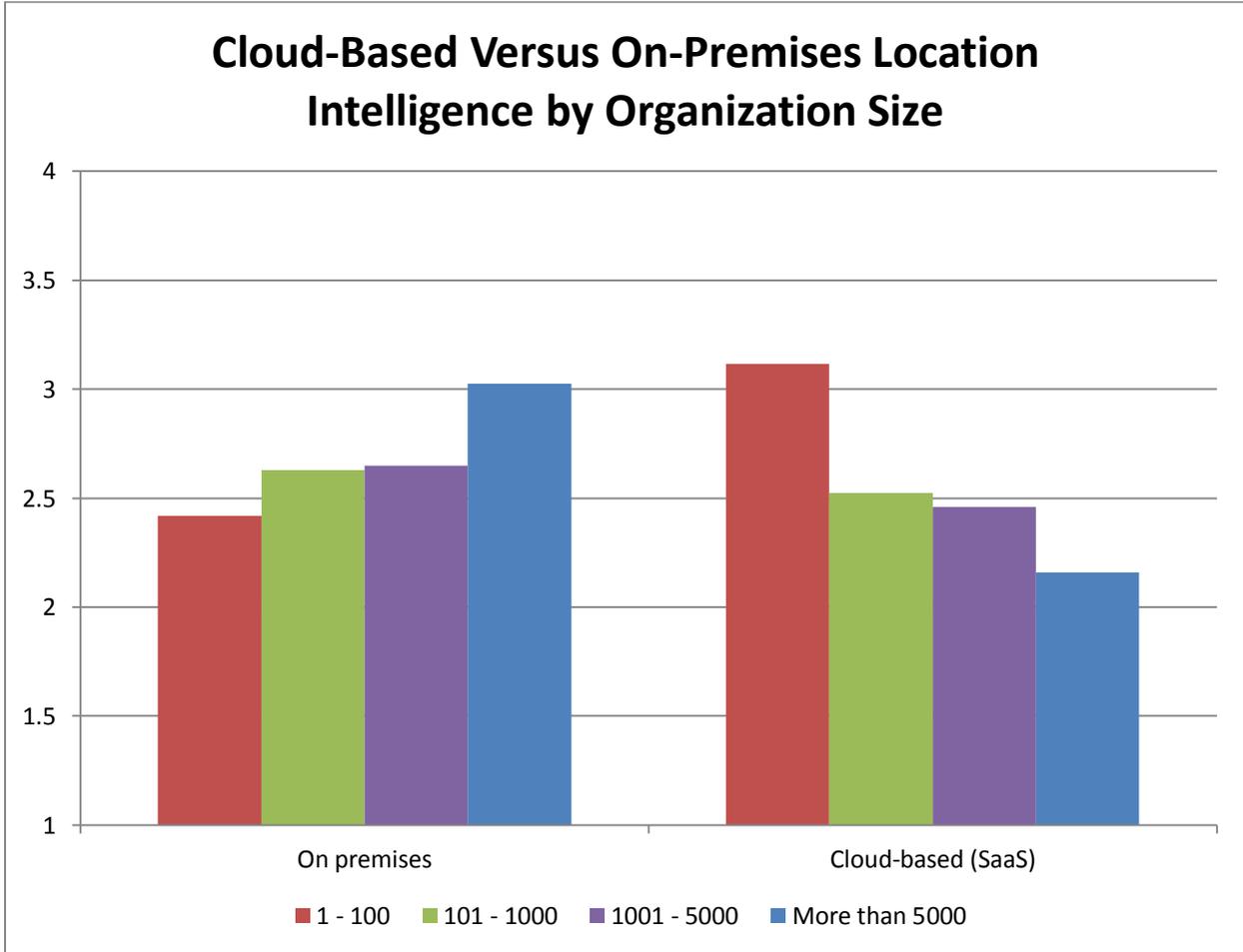


Figure 43 – Cloud-based versus on-premises location intelligence by organization size

### User Devices Where Location Intelligence Will Be Utilized

Each year, we examine how users access location intelligence technologies and services via fixed and/or mobile platforms and devices (fig. 44). In 2017 (as in our earlier studies), desktops and laptops are the most popular (more than 80 percent "critical" or "very important") and well ahead of mobile devices. In part, we expect the drivers of this finding are "real estate" issues, multitasking, and current use cases for location intelligence. Still, more than half of respondent organizations expect location intelligence access across desktops, mobile phones, and tablets. As other dimensions of use reveal, roles, industry, and geography help explain this distribution of users.

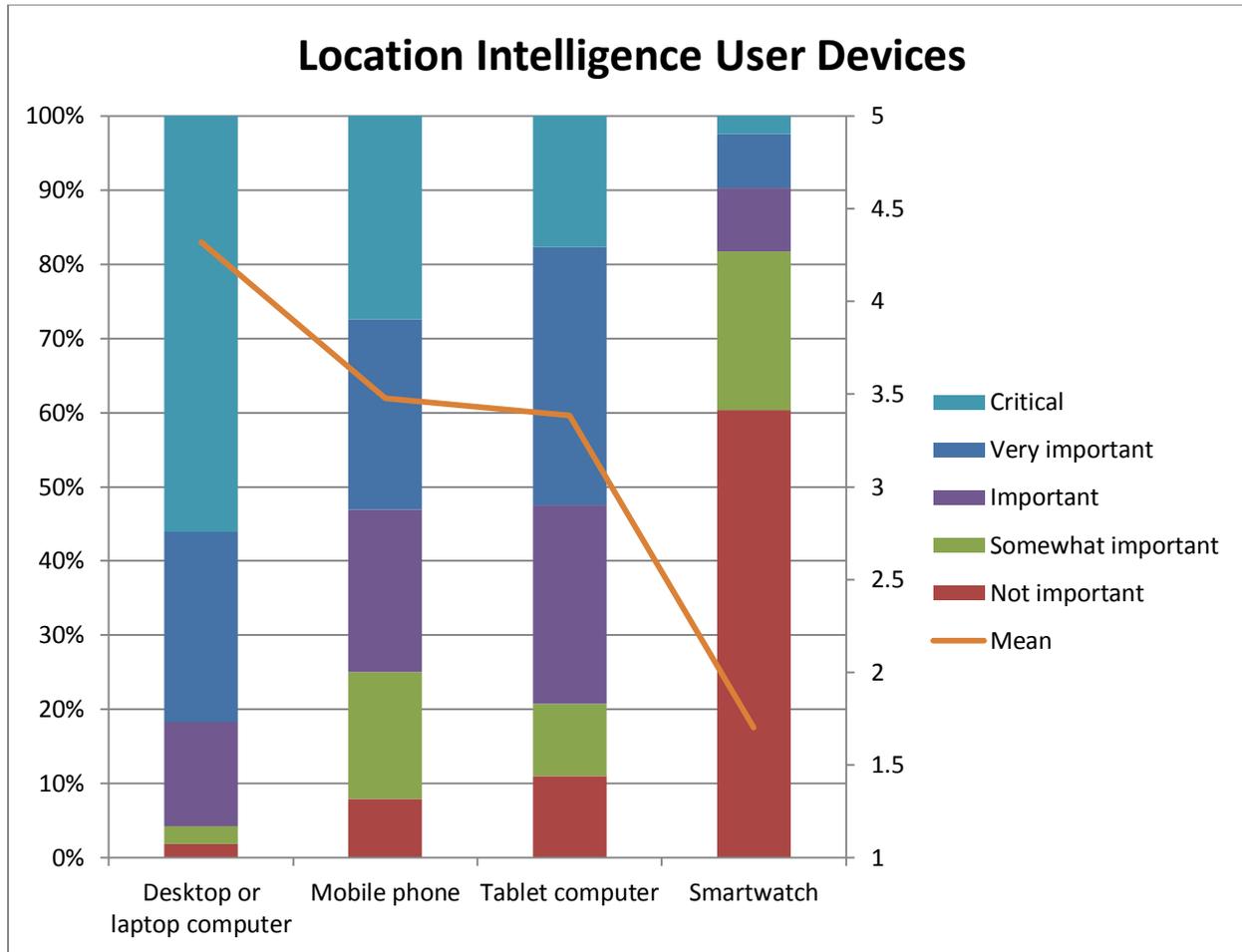


Figure 44 – Location intelligence user devices

Though business functions agree that mobile use of location intelligence technology will be in the mix, all roles are by far more likely to access location technology on a desktop or laptop (fig. 45). This is especially the case in Marketing and Sales, where we would expect functions to be "in the field" more often. Generally, we can infer that analyzing location intelligence most likely occurs in the office and at the management level versus in the field at the operational level. It is also noteworthy that mobile phone-based location intelligence, though well below desktop use, ranks ahead of tablet use for all functions except Finance, where tablet and phone use are equal.

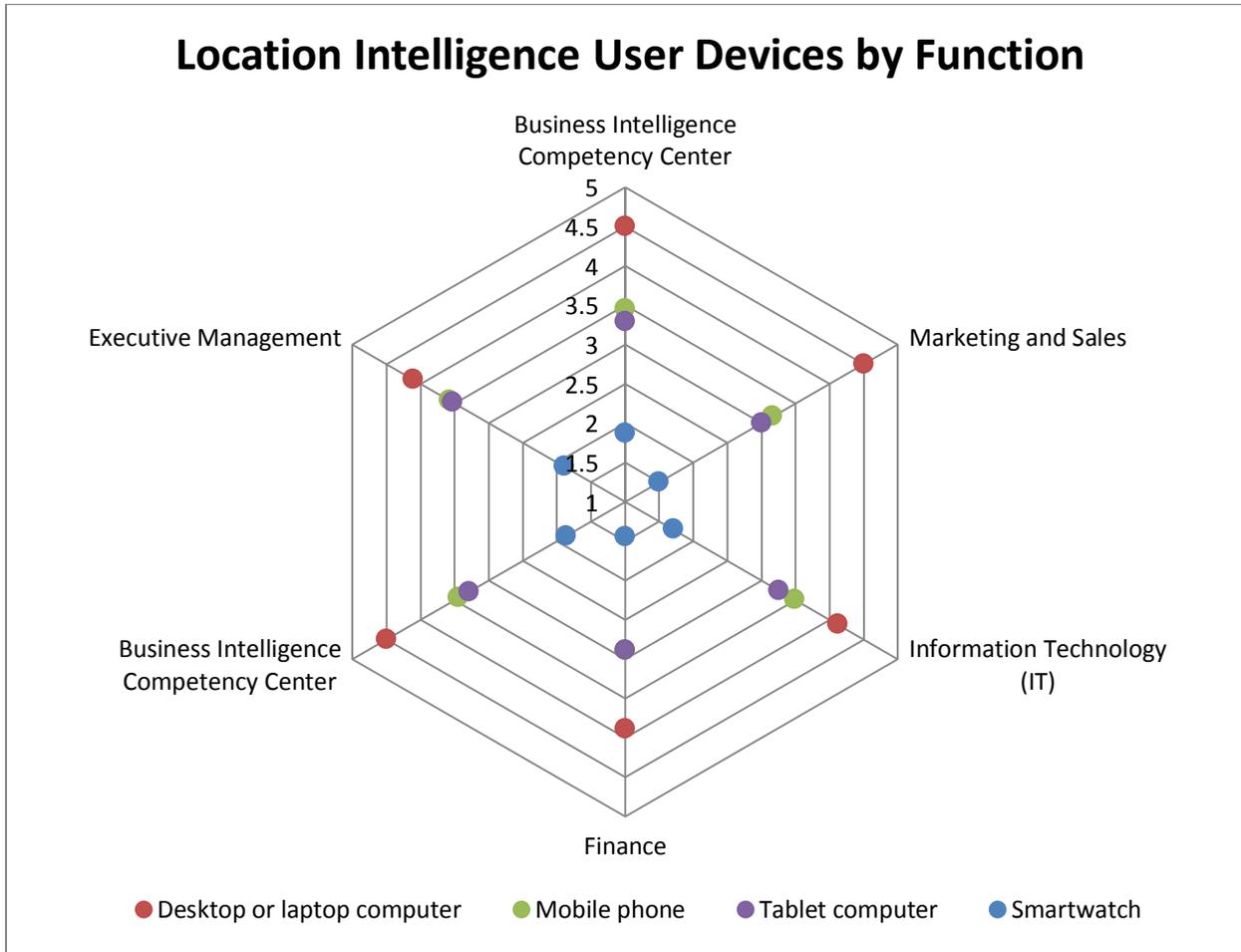


Figure 45 – Location intelligence user devices by function

A mixed-use model of mobile and fixed technologies holds across regions in 2017, though desktop/laptop preference has the clear edge across all geographies (fig. 46). Asia-Pacific respondents report the highest likelihood of using all devices, particularly tablets and mobile phones, and deliver the only relevant level of smartwatch interest in our report. After Asia Pacific, North American respondents report the next highest interest in multiple advices and rank ahead of EMEA counterparts in all devices polled.

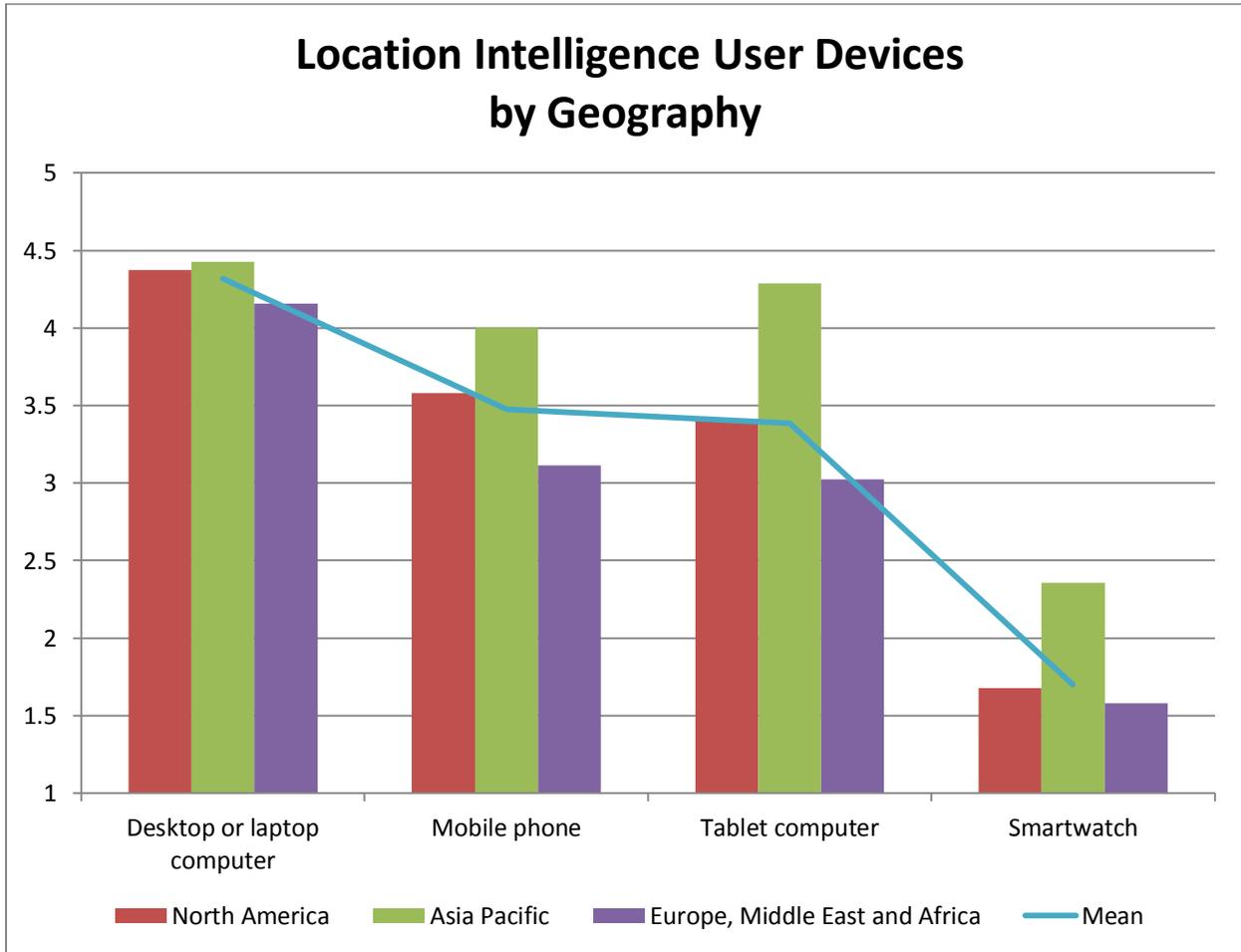


Figure 46 – Location intelligence user devices by geography

Organizations of different sizes all choose desktops/laptops well over all other devices (with mean scores of 4.2 to 4.4 or "very important") (fig. 47). Small (1-100 employees) organizations make mobile phones their second choice, while the second choice at very large (>5,000 employees) organizations is tablets. Smartwatch use is less than "somewhat important" at organizations of all sizes.

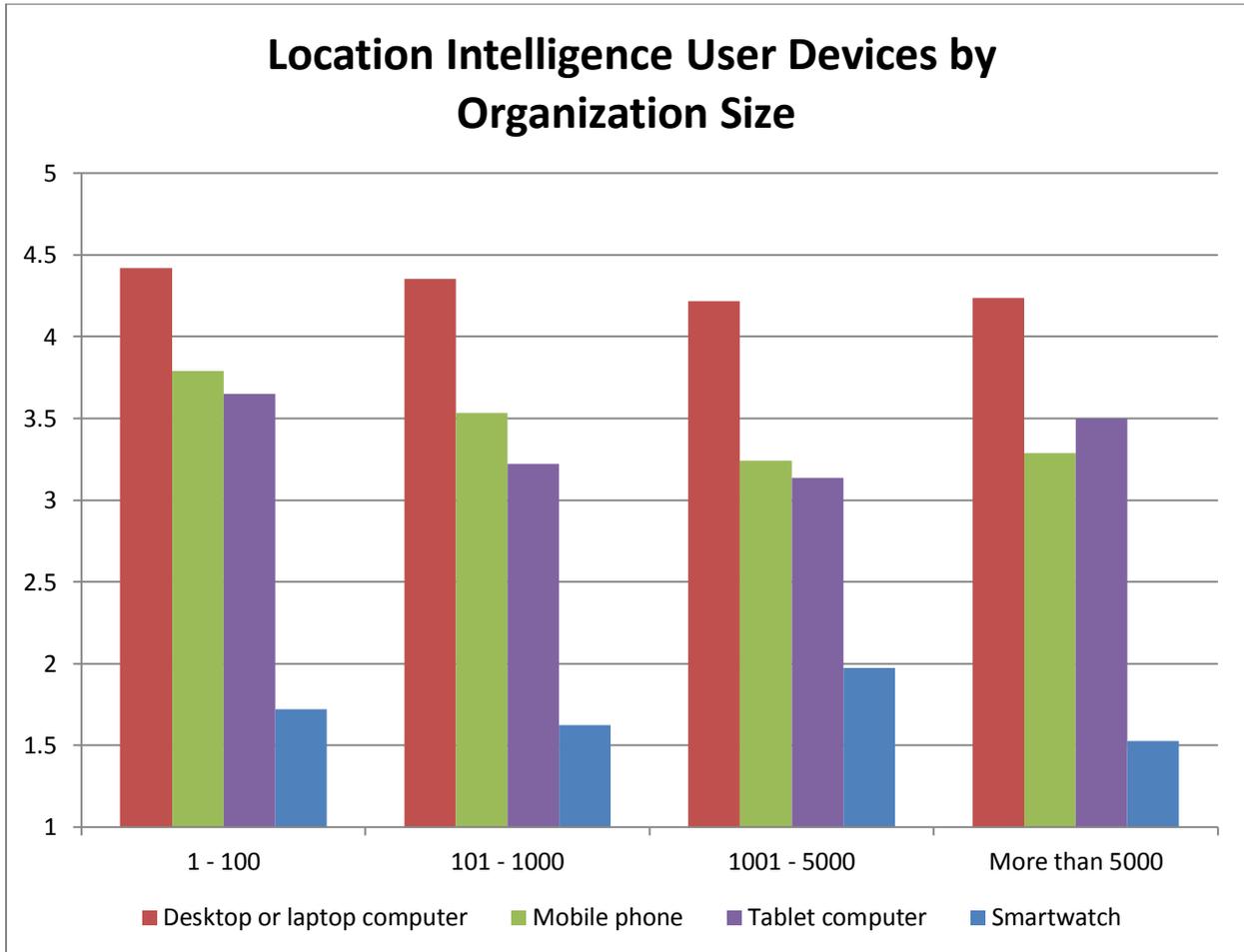


Figure 47 – Location intelligence user devices by organization size

Across vertical industries, desktop/laptop use is the preferred choice at all industries sampled in 2017 (fig. 48). The gap between desktop/laptop and other devices is smallest in business services, where mobile phone use is considered "very important" and tablet use is well above "important." The highest score for desktop/laptop comes in energy, where overall value is near "critical." Overall device use again indicates users that are at headquarters rather than in the field and more likely managers versus operational users.

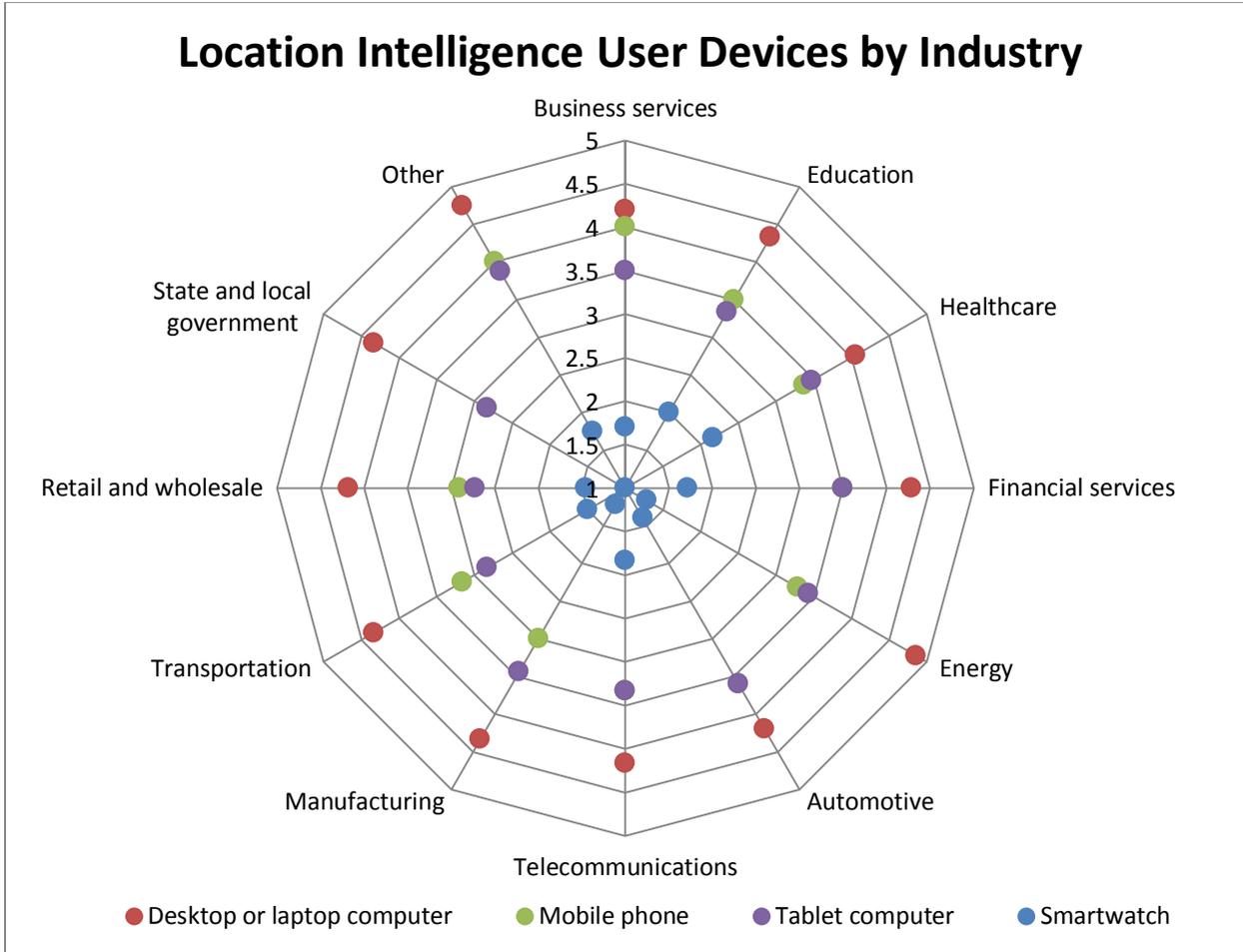


Figure 48 – Location intelligence user devices by industry

### Mobile Location Intelligence Features

For a fourth year, we measured the perceived criticality of three mobile location intelligence feature priorities: location-based query filtering, reverse geocoding, and geo fence alerting. In 2017, respondents strongly choose mobile location-based query filtering (the software’s ability to query data using current location as a filter parameter) as their highest priority (fig. 49). This feature is "critical" to 36 percent of respondents and very important to another 42 percent. Less than 10 percent say location-based query filtering is "not important." While less critical, the other two features sampled—reverse geocoding (creating a physical address or place name from coordinate information) and geo fence alerting (alerting when a device crosses a defined boundary)—are, at minimum, "somewhat important" to 85 and 78 percent of respondents respectively.

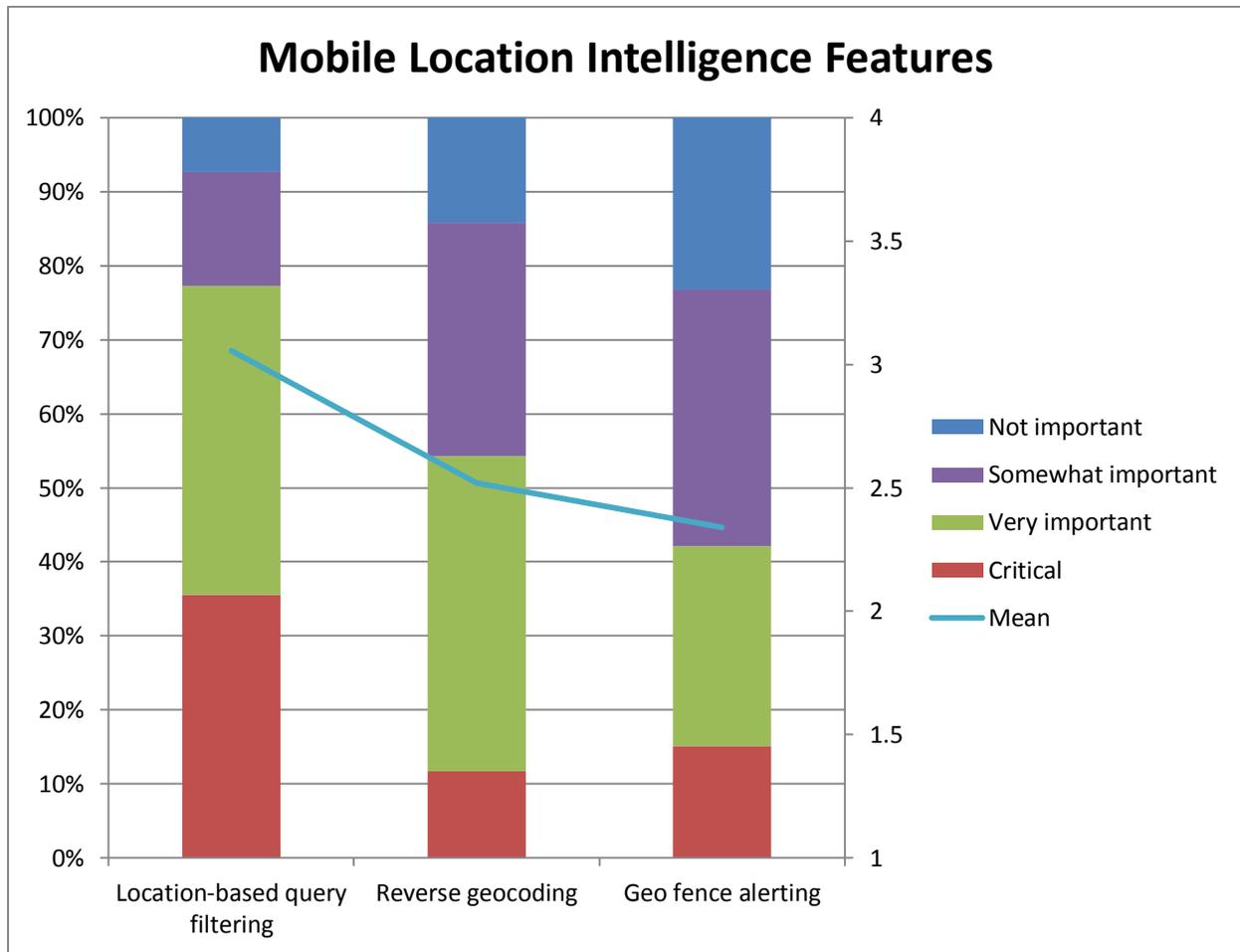


Figure 49 – Mobile location intelligence features

Location-based query filtering is again the most popular mobile location intelligence feature across all functions studied in 2017 (fig. 50). Reverse geocoding is almost uniformly the second most popular feature across all functions, with the exception of Marketing and Sales. Because of a field orientation, Sales, in particular, finds utility in geo fence alerting.

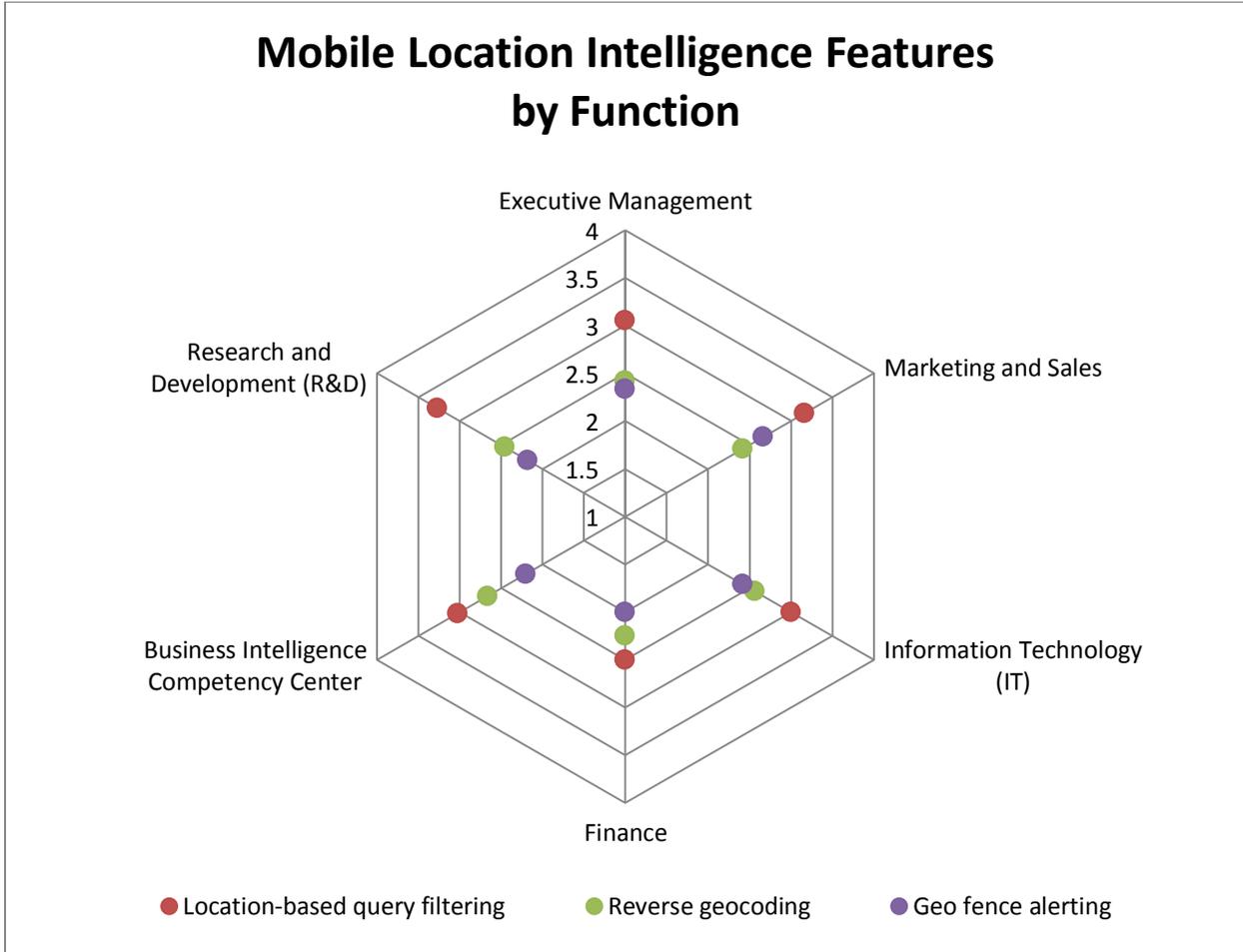


Figure 50 – Mobile location intelligence features by function

The emphasis on location-based query filtering extends to all geographic regions in 2017 (fig. 50). In addition, all geographies, led by Asia Pacific, prioritize reverse geocoding and geofence alerting second and third respectively.

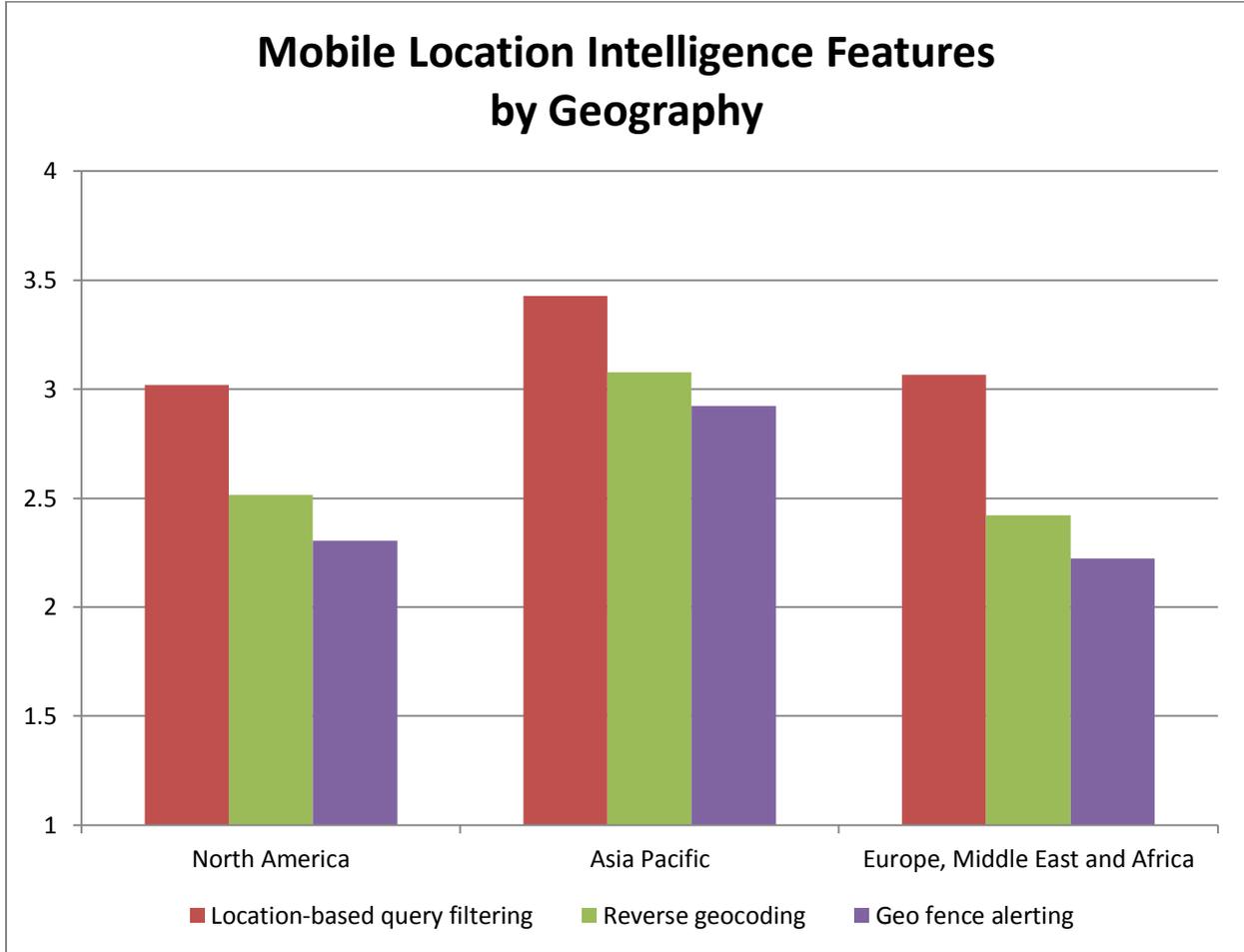


Figure 51 – Mobile location intelligence features by geography

As we find in other measures, location-based query filtering is the strongest priority for organizations of any size (fig. 52). 2017 sentiment for location-based filtering is slightly higher in mid-sized (101-1,000 employees) and small (1-100 employees) organizations than among larger peers. Where we might expect more interest at large and very large organizations, mid-sized organizations also report the highest levels of interest in reverse geocoding and geofence alerting.

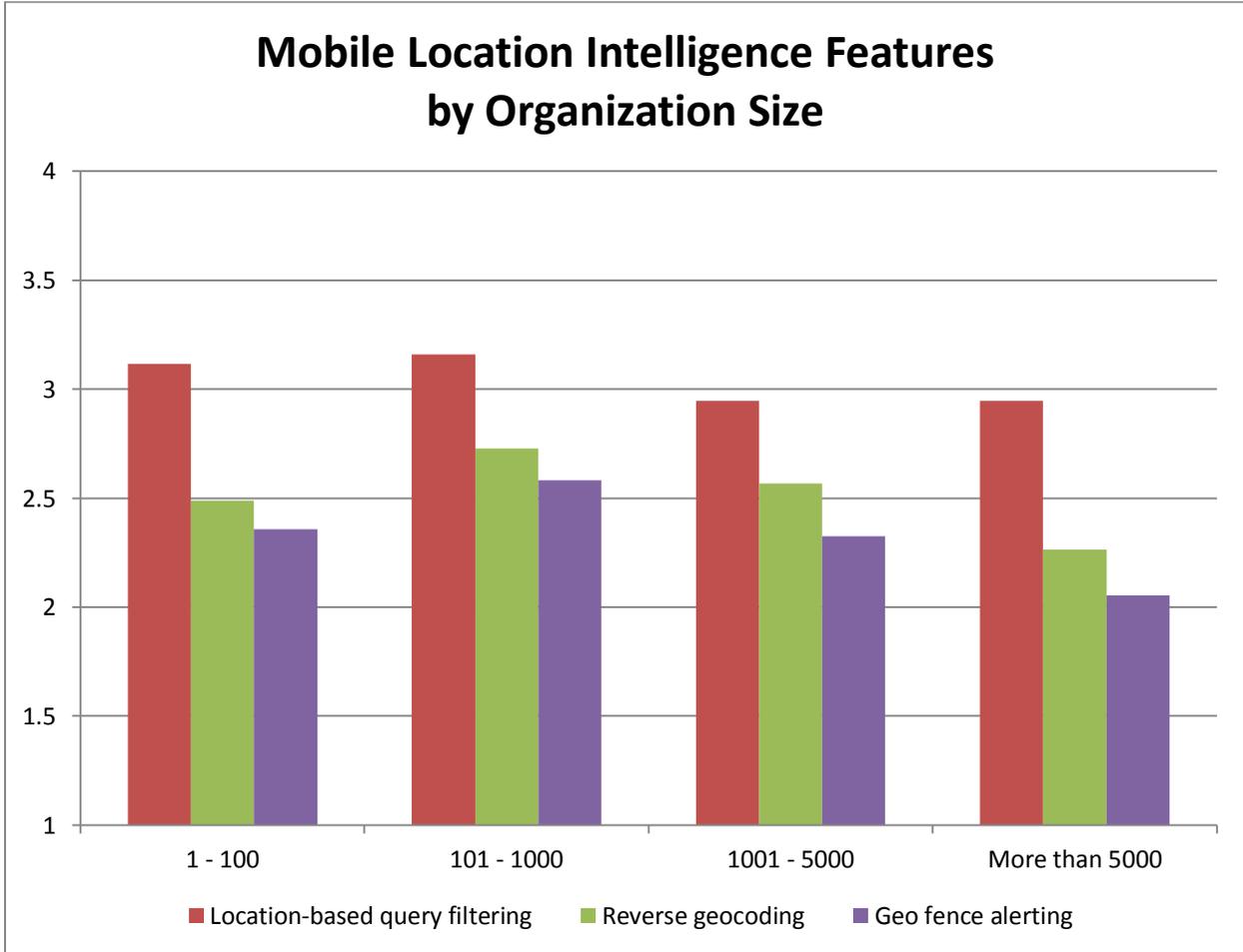


Figure 52 – Mobile location intelligence features by organization size

Location-based query filtering is the most prioritized mobile location intelligence feature across all vertical industries highlighted in 2017 (fig. 51). Feature preferences among Transportation respondents are most tightly clustered to include reverse geocoding and geofence alerting. The largest gaps between location-based query filtering and other mobile location features are found in Manufacturing, Healthcare, Business services, and Telecommunications.

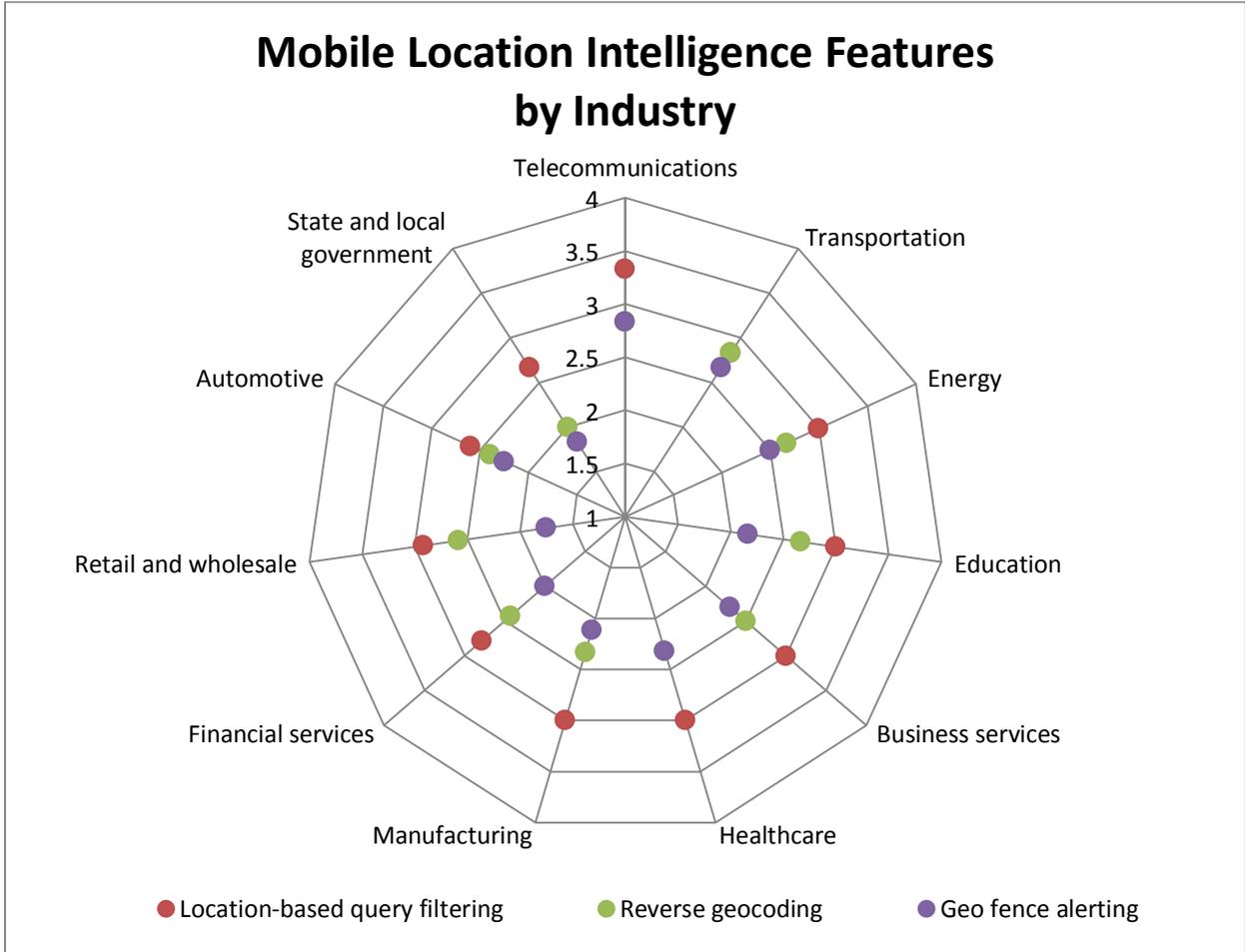


Figure 53 – Mobile location intelligence features by industry

### Required Integration with GIS Vendors

We asked respondents to prioritize integration requirements with geographic information system vendors (fig. 54). As in previous years, the favorite integration target is Google, which is a requirement in more than 70 percent of organizations. Esri follows distantly with 39 percent, and database extensions (37 percent) are the remaining notable location intelligence integration requirements.

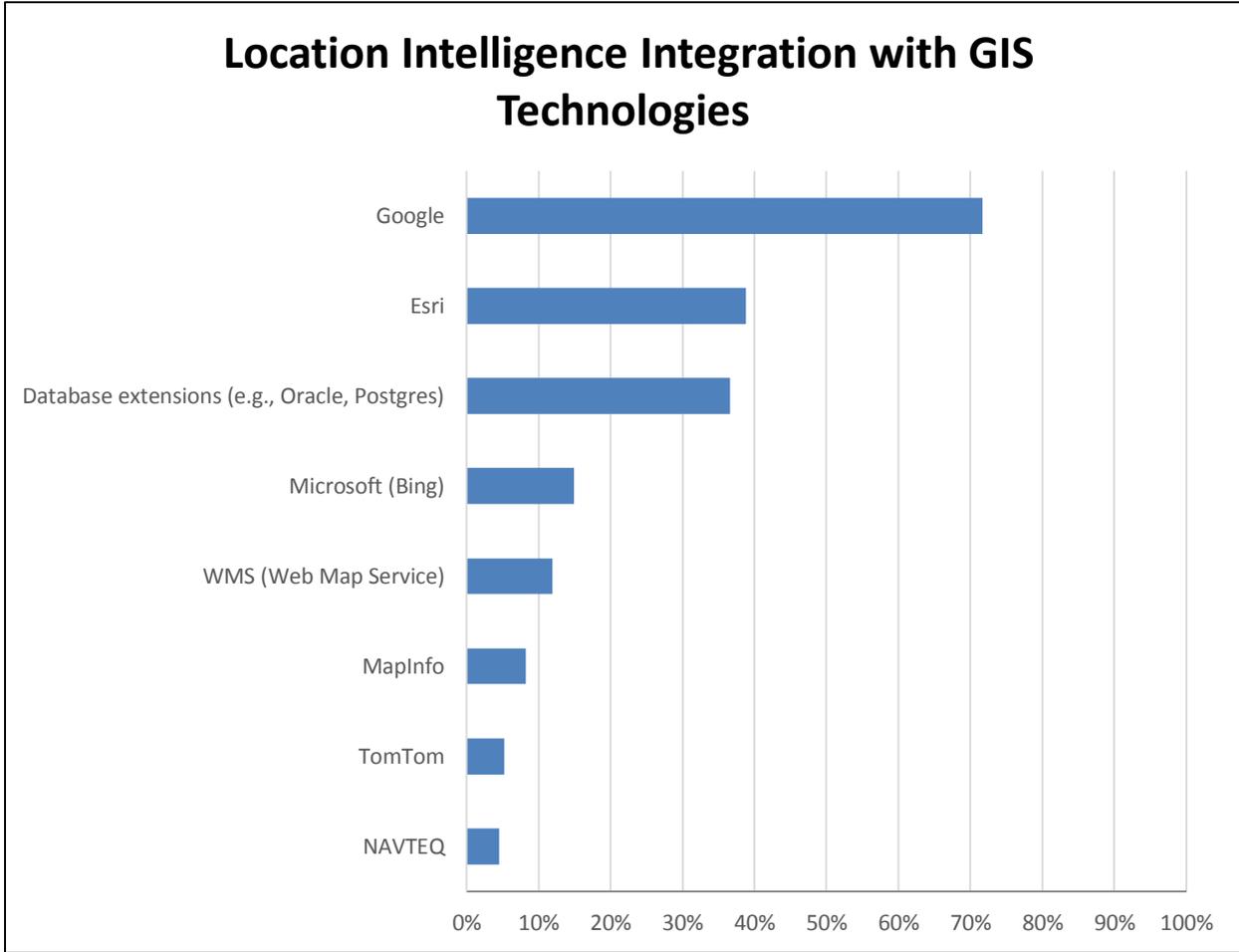


Figure 54 – Location intelligence integration with GIS technologies

Across four years of data, we see some notable trending in location intelligence integration with GIS technologies requirements (fig. 55). Most notably, sentiment toward Google integration declined 14 percent compared to 2014, interest in Esri grew 9 percent year over year, and database extensions interest grew by a similar amount. All remaining GIS technologies are down or grew minimally for 2017.

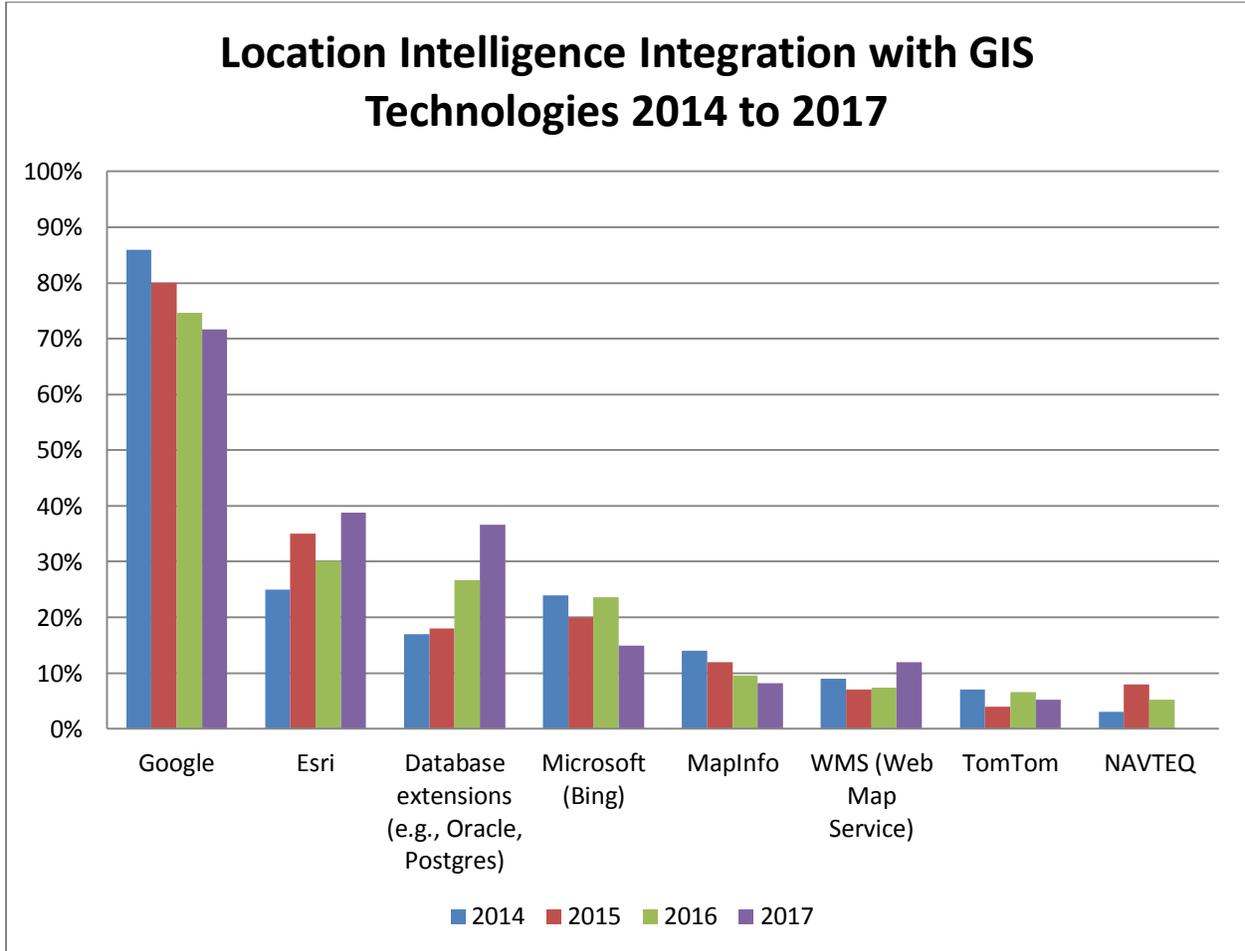


Figure 55 – Location intelligence integration with GIS technologies 2014 to 2017

By function, Executive Management and the BICC lead demand for Google GIS integration in 2017 (fig. 56). Marketing/Sales and Finance are most likely to require integration with Esri. In a likely leading indicator of demand, R&D and the BICC lead interest in database extensions. The remaining choices, (Bing, WMS, MapInfo, etc.) all have minimal appeal for GIS integration.

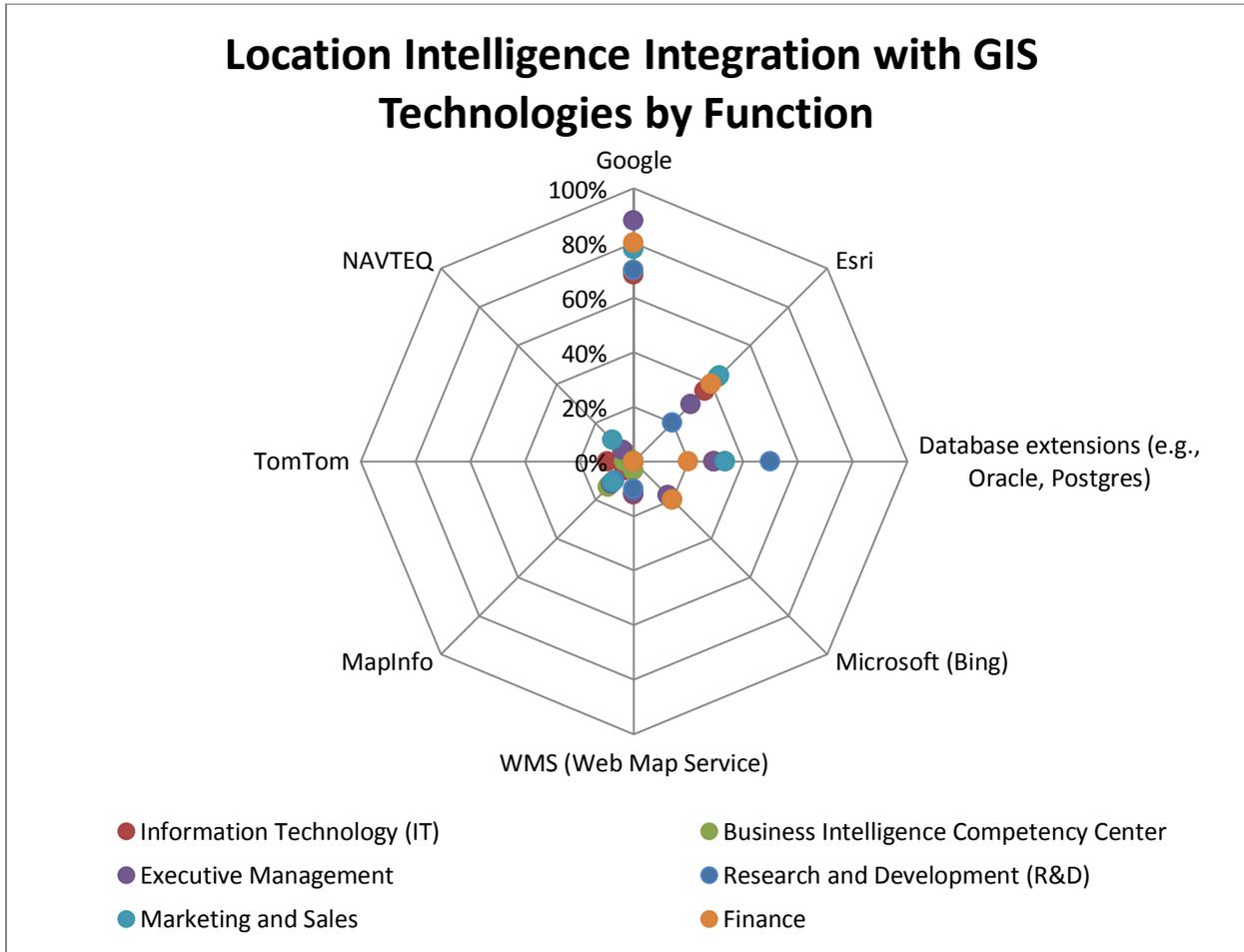


Figure 56 – Location intelligence integration with GIS technologies by function

Google integration demand is highest across all geographies with Asia Pacific ranking the highest (fig. 57). By comparison, requirements for Esri and database extension integration are highest by far in North America, second highest in EMEA and least popular in Asia Pacific. All other GIS technology requirements have declined over time.

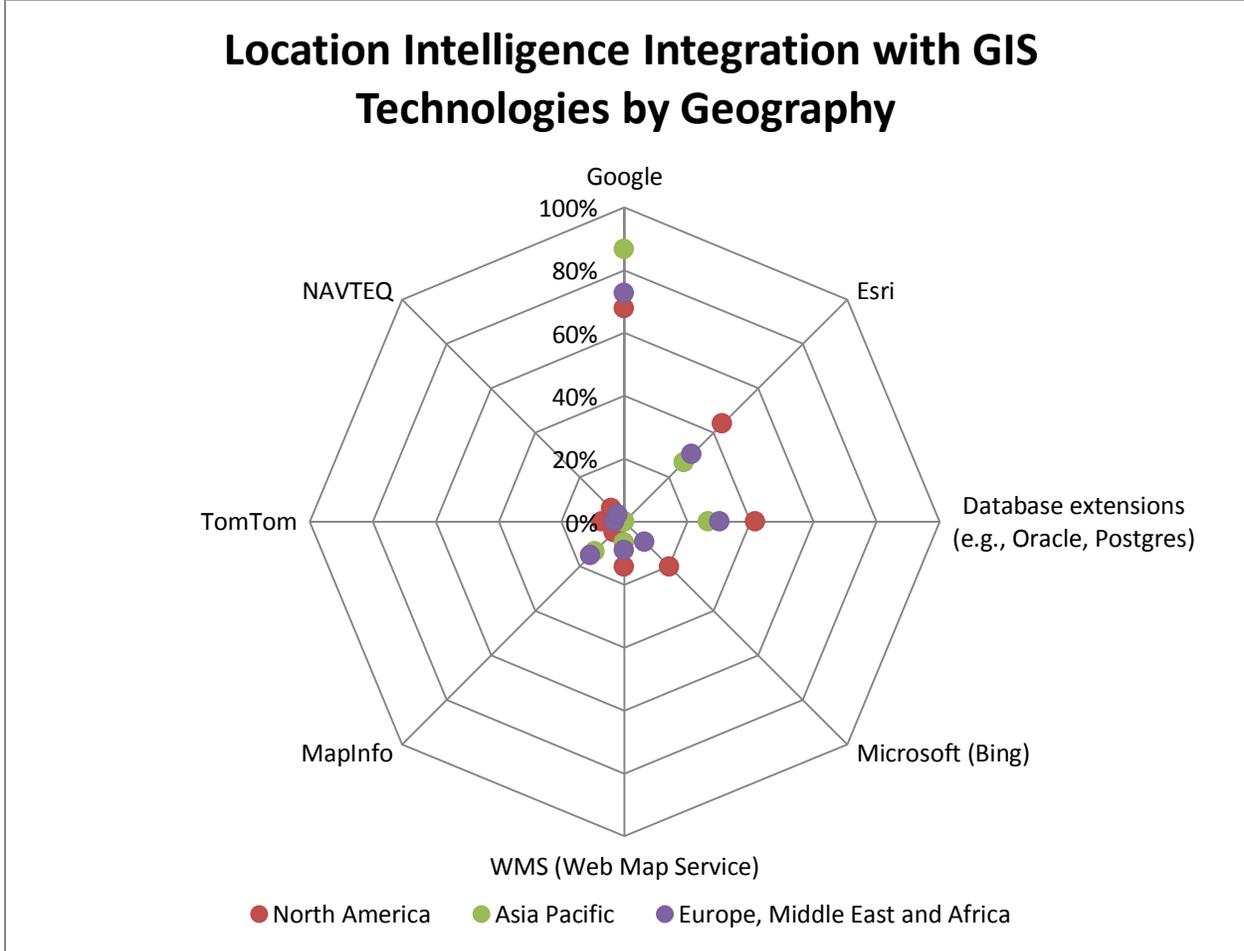


Figure 57 – Location intelligence integration with GIS technologies by geography

Organizations of all sizes still most prefer Google GIS integration, a requirement that tends to decrease as organization size increases (fig. 58). Conversely, the requirement for Esri integration increases as organization headcount increases. Requirements are less related to size for database extensions where small (1-100 employees) and some large (1,001-5,000 employees) organizations are most interested.

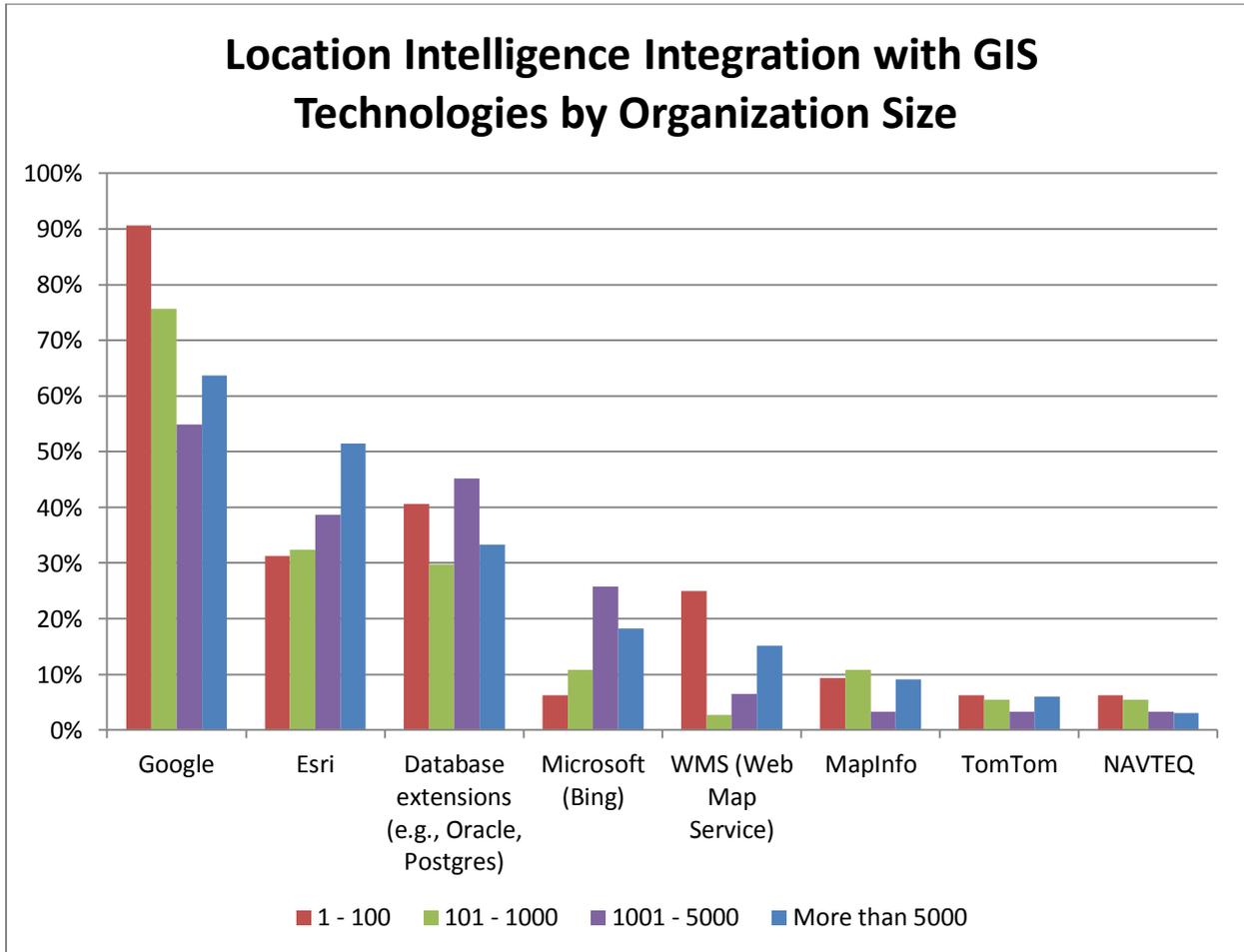


Figure 58 – Location intelligence integration with GIS technologies by organization size

Location intelligence integration with GIS technologies varies considerably across vertical industries (fig. 59). Among notable findings, Esri integration is universal among State/local government respondents, is by far the top choice in Healthcare, and is tied (with Google) as the top choice in Energy. Google is by far the top choice among all other industries except Education, where database extensions are most popular and likely tied to both proprietary and public data.

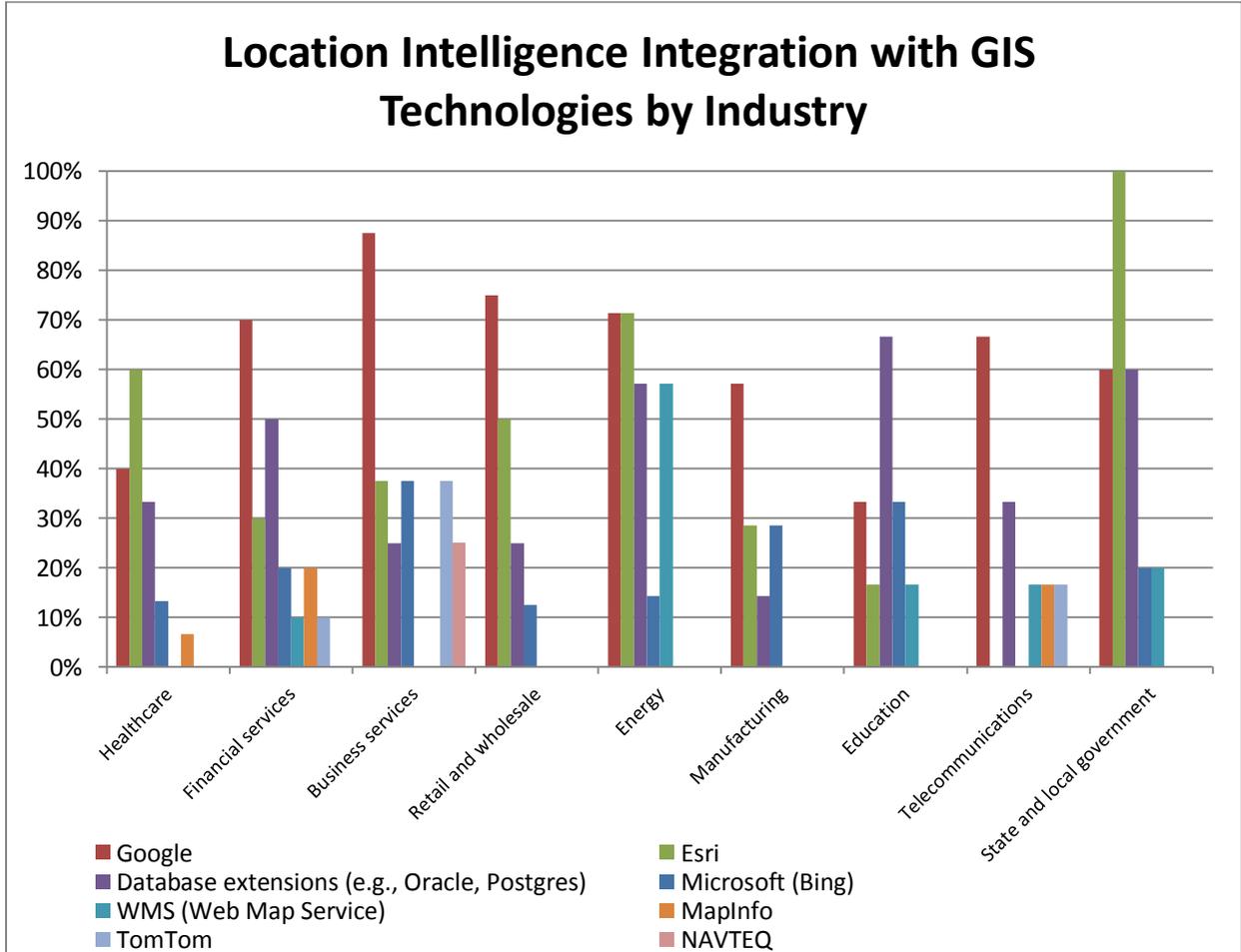


Figure 59 – Location intelligence integration with GIS technologies by industry

## Industry Support for Location Intelligence

Across four years of data, industry support for location intelligence has clearly increased (fig. 60). If not hype-laden enthusiasm, the software industry nonetheless ascribes a "very important" view to the technology in 2017. While "critically important" estimations have declined since 2015, "not important" appraisals have disappeared entirely across our base of providers. While vendors tend to lead enthusiasm, this finding implies that location intelligence is "crossing the chasm" and destined to become mainstream.

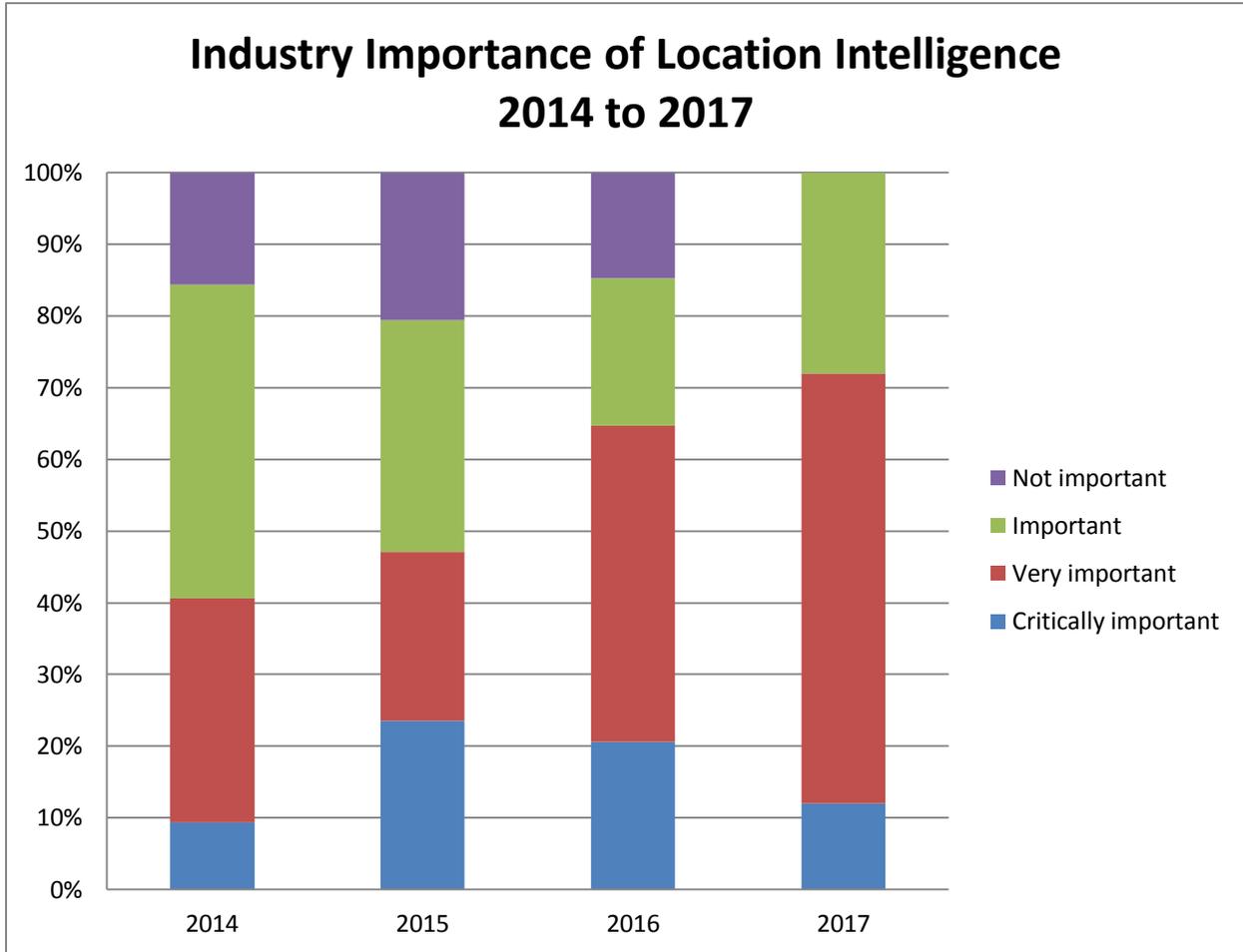


Figure 60 – Industry importance of location intelligence 2014 to 2017

### Industry Support for Geocoding

As depicted in fig. 61, industry support for geocoding features is limited today and somewhat poorly aligned with user preferences (see fig. 17, p. 29). The top industry-supported feature, built-in geocoding, is also the top customer preference. However, automated and street-level geocoding support (second and third in customer preference) rank third and sixth respectively, in industry support. Worldwide support, least important to the respondent base, is the second most supported feature by industry vendors in 2017.

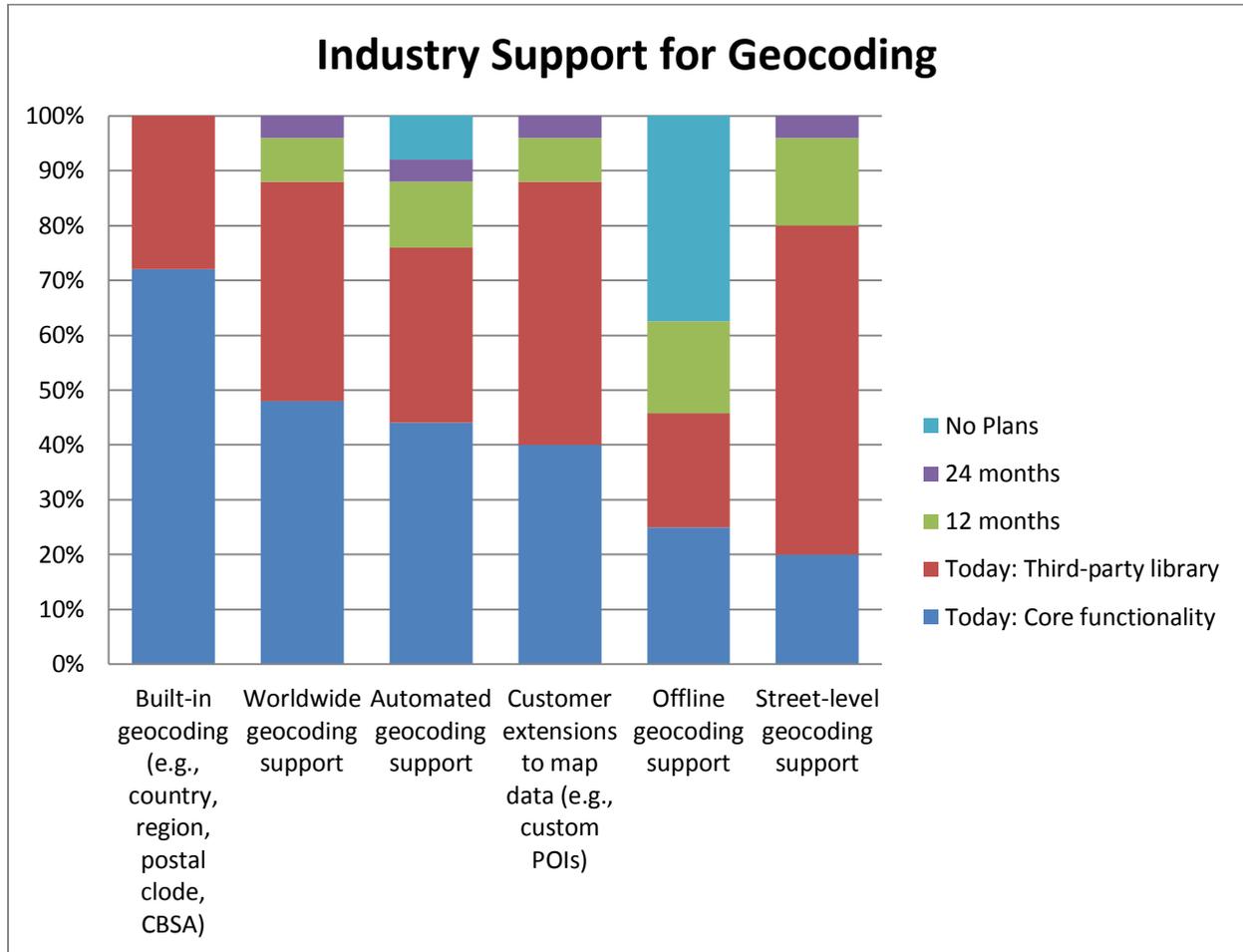


Figure 61 – Industry support for geocoding

Across four years of data, industry support for built-in geocoding increased, but decreased across most other parameters (fig. 62). **One significant finding not sufficiently reflected in this chart is that many of the features noted in decline have shifted to third-party integration versus core integration.** While built-in geocoding and automated geocoding remain core functions, other requirements (worldwide geocoding, customer extensions, etc.) are shifting to third-party libraries or other facilities.

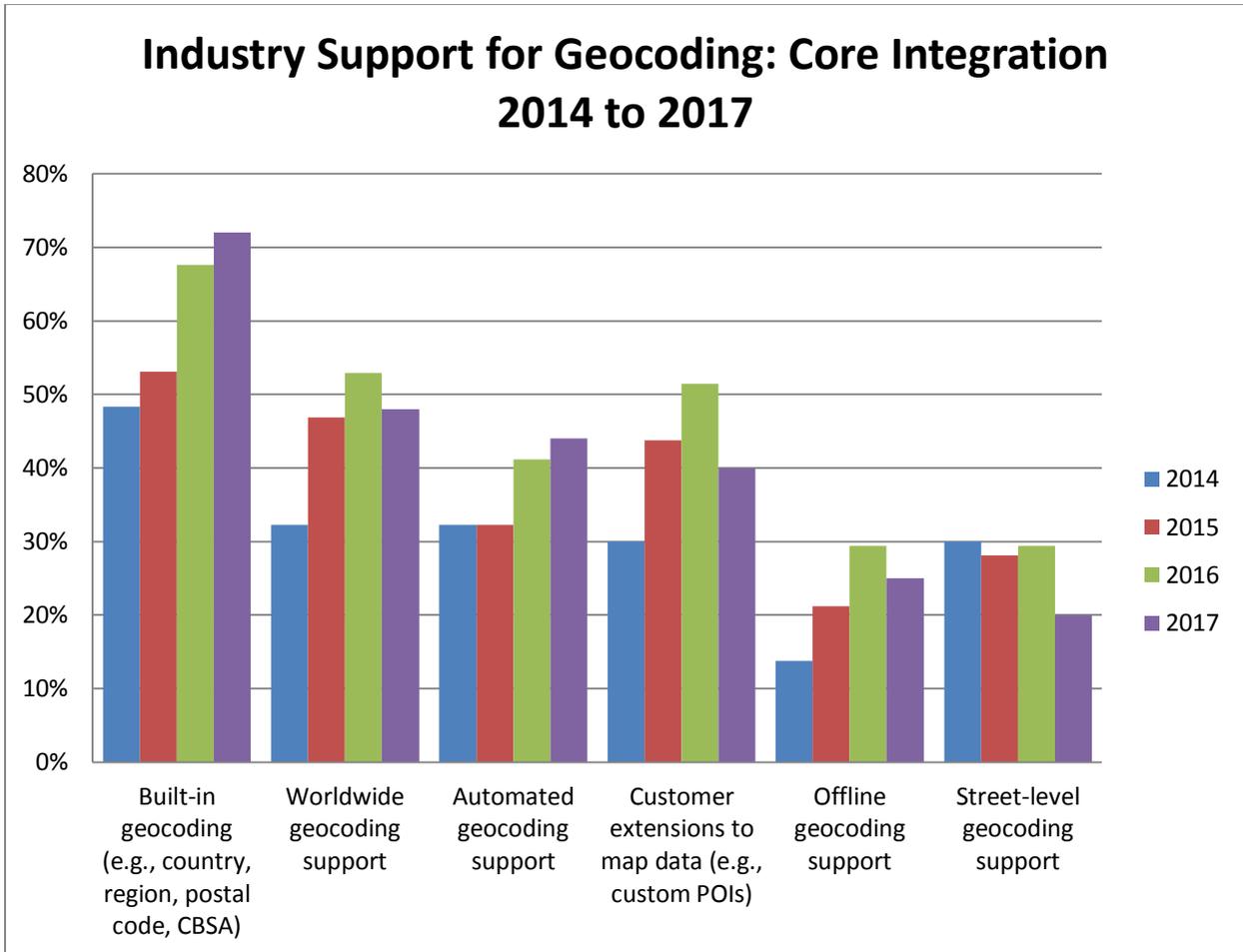


Figure 62 – Industry support for geocoding: core integration 2014 to 2017

### Industry Support for Location Intelligence Features

As a group, business intelligence vendors are attending to a full span of location intelligence features (fig. 63). The top five categories of industry priorities—dashboards, map-based visualization, choropleths, drill-down navigation, and value/range shading—are supported by 76 to 80 percent of vendors. Industry support for features is somewhat aligned with user expectations, though in different order (see fig. 27. p. 39). Users rank map-based visualization as most critical, followed by drill-down navigation, dashboards, and layering of visualizations. Choropleths, which leapfrogged to sixth in user criticality, are among the features highly supported by vendors.

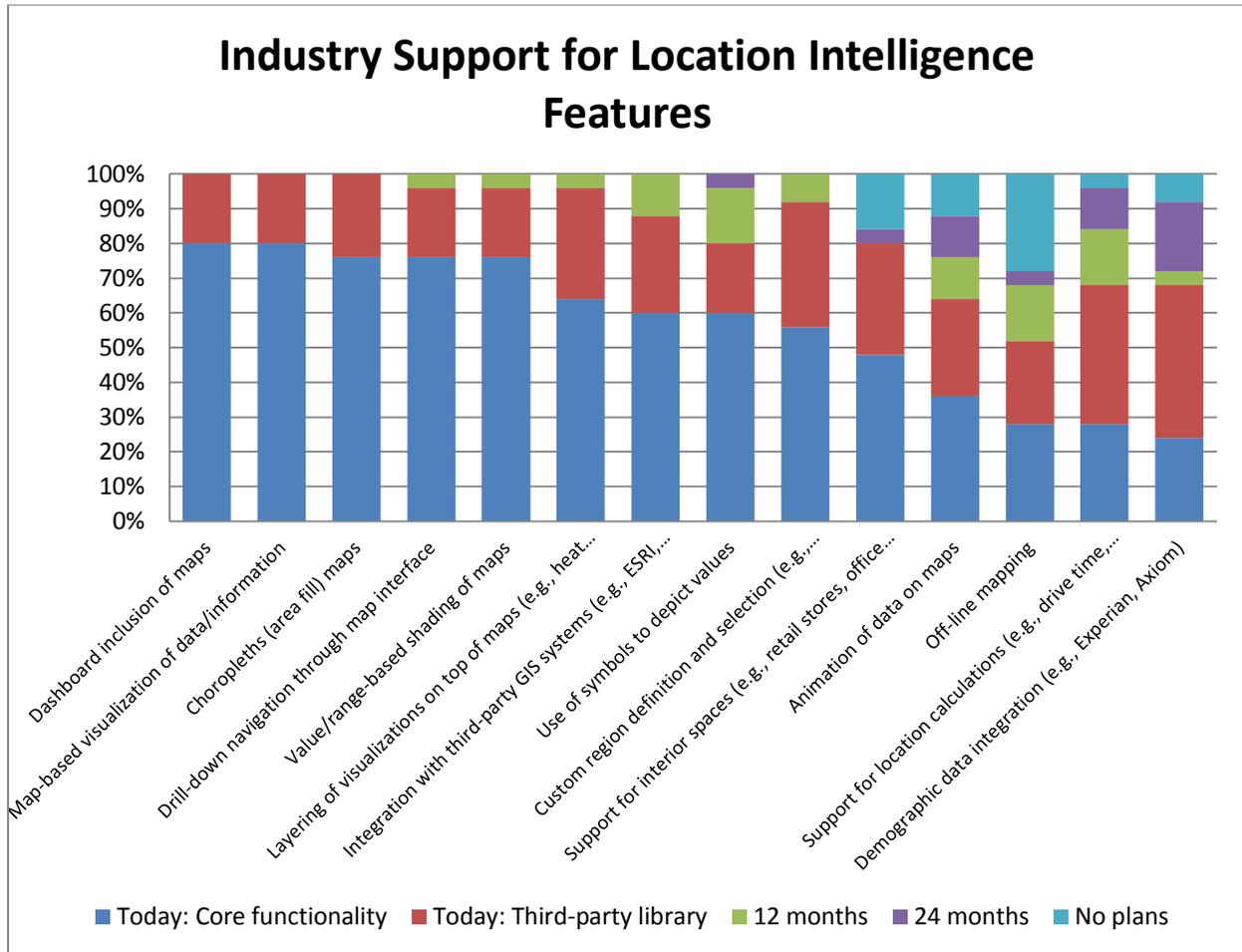


Figure 63 – Industry support for location intelligence features

Across four years of data, industry support for most top location intelligence features decreased year over year (fig. 64). An exception in user sentiment noted elsewhere (see fig. 28, p. 40) was choropleths, where industry support grew year over year. We also see increases in other lesser feature integration priorities including custom regions, integration with third-party GIS, and support for interior spaces. Again we ascribe some of the declines noted here to third-party technology adoption as opposed to core integration shortfalls.

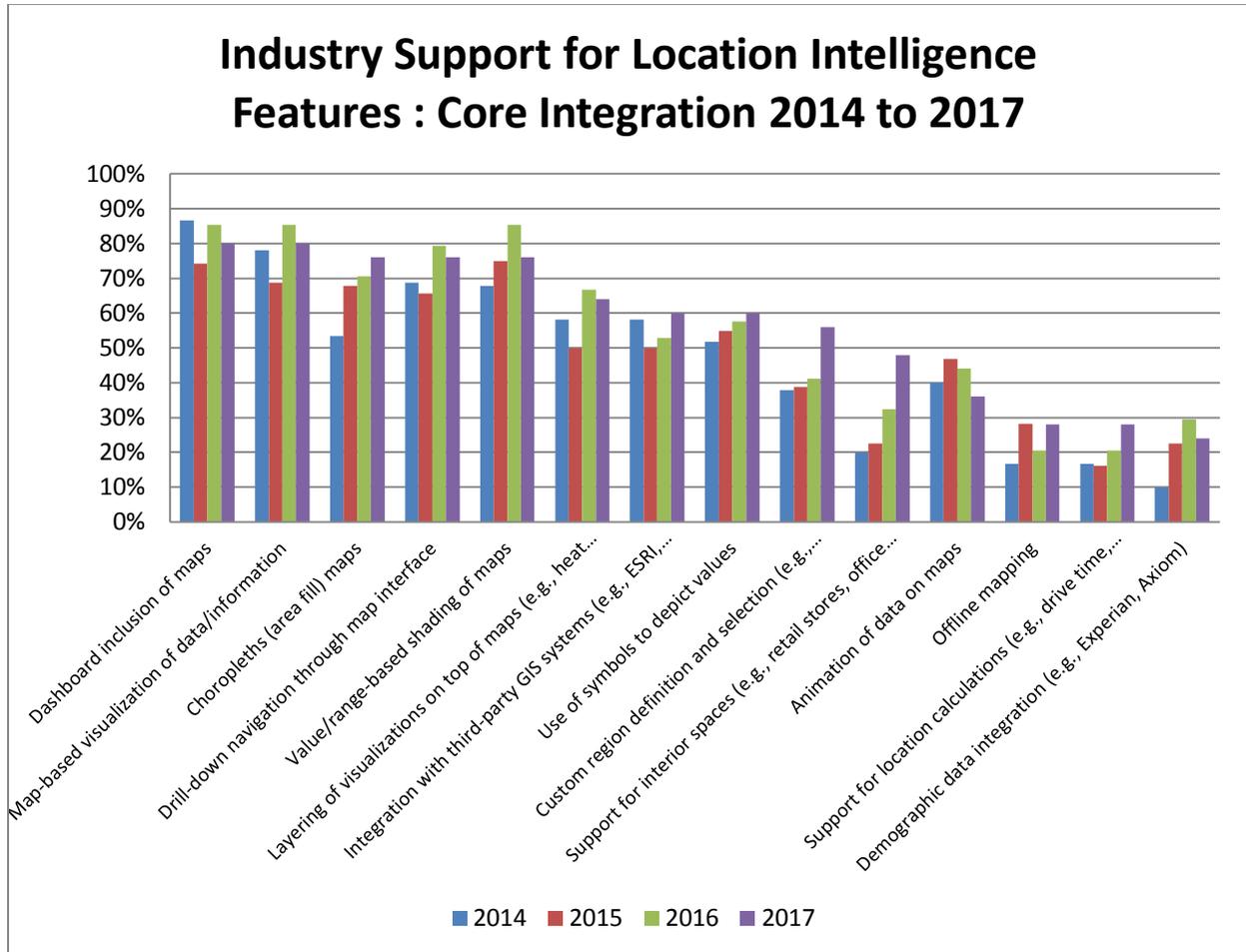


Figure 64 – Industry support for location intelligence features: core integration 2014 to 2017

### Industry Support for Third-Party GIS Platforms

Industry support for integration to third-party GIS platforms trended along the lines of user preferences across four years of data (fig. 63). Most notably, support for Google declined from 82 percent to 64 percent. In the same time span, Esri support rose from 52 percent and now stands at 64 percent. Support for database extensions grew, putting the top three industry priorities in line with user expectations (see fig. 55, p. 57). Declining support for other third-party platforms is also in line with user behavior.

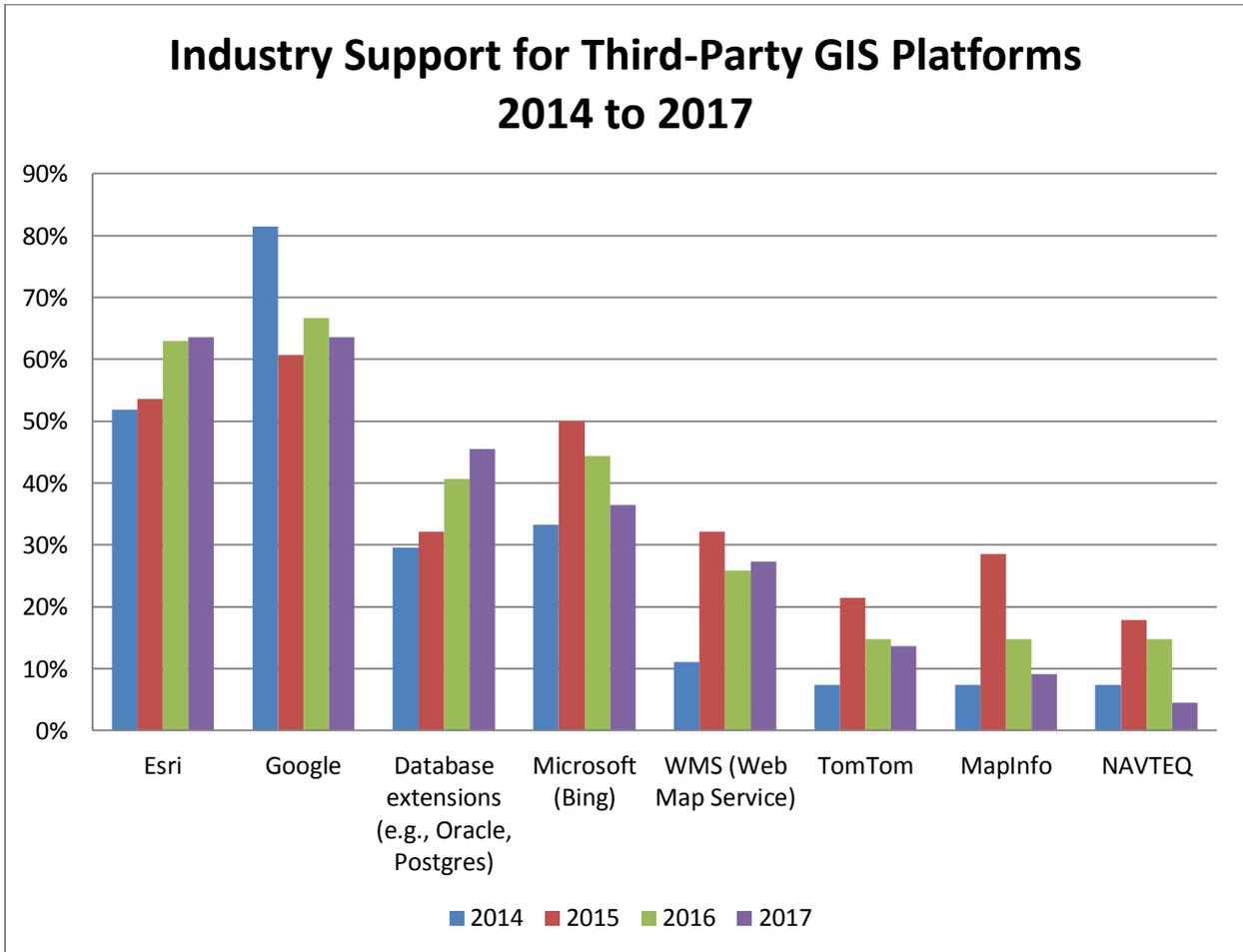


Figure 65 – Industry support for third-party GIS platforms 2014 to 2017

### Industry Support for Mobile Location Intelligence Features

Industry support for mobile location intelligence features is aligned with user priorities (see fig. 49, p. 61), though support remains somewhat immature (fig. 66). Half the vendors we surveyed currently offer location-based query filtering, and less than 30 percent support reverse geocoding and/or geo fence alerting. Twelve-month plans to expand support for geo fence alerting are especially thin.

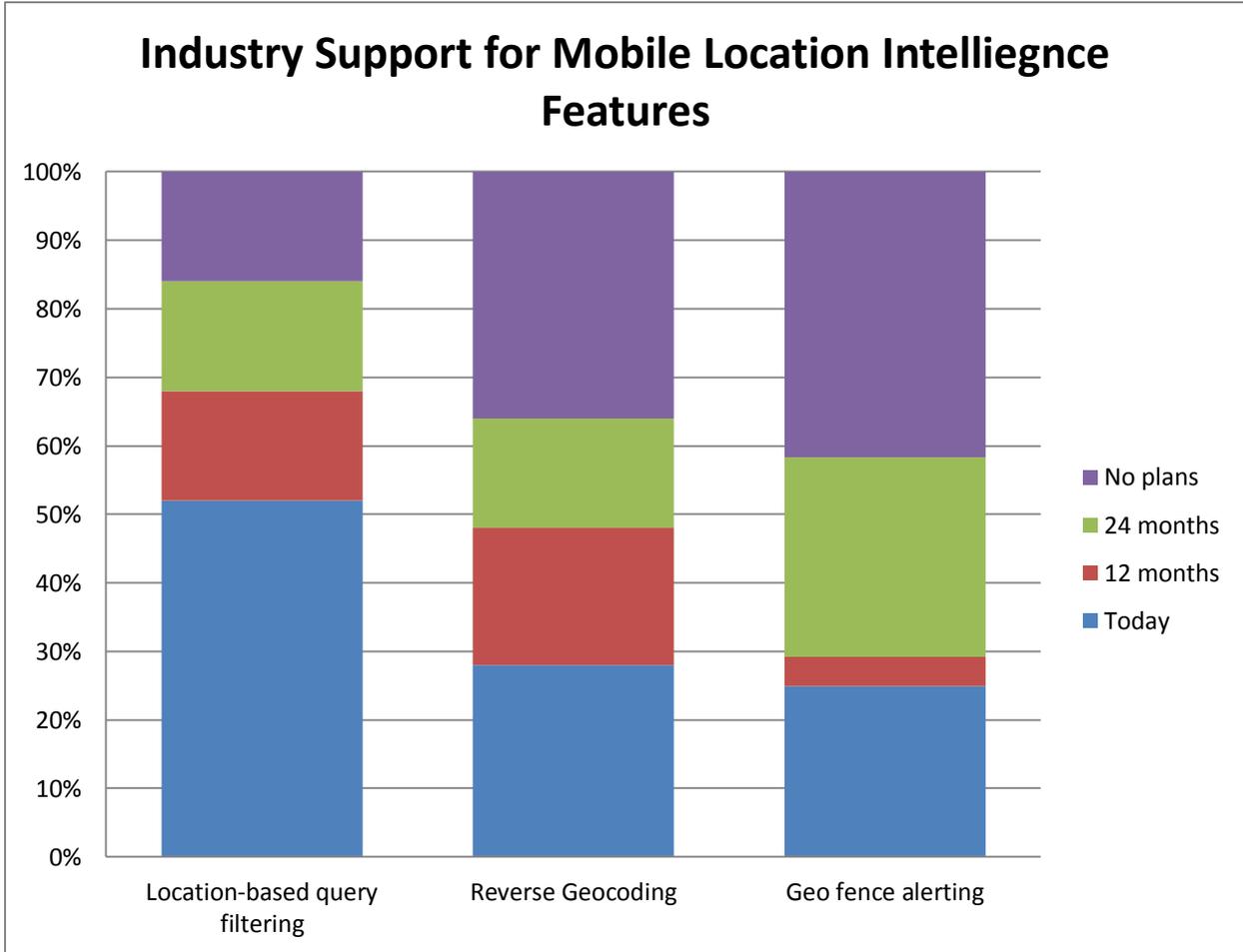


Figure 66 – Industry support for mobile location intelligence features

Across four years of data, industry support for mobile location intelligence features increased across all parameters in 2017 (fig. 67). Location-based query filtering remained the top choice by far, though relative increases were stronger in reverse geocoding and geo fence alerting. These findings are again in line with user sentiment.

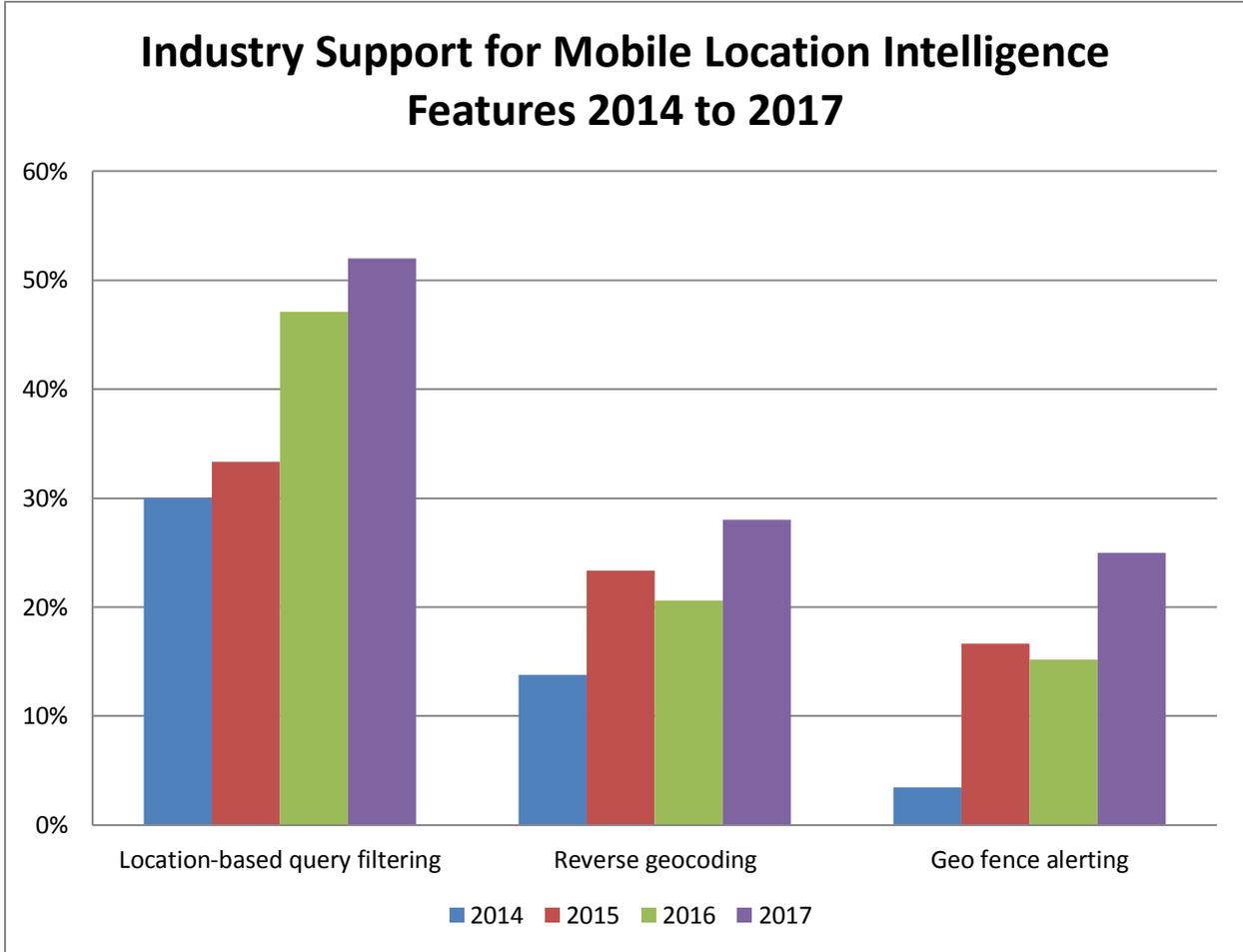


Figure 67 – Industry support for mobile location intelligence features 2014 to 2016

**Demand versus Supply Priorities for Location Intelligence**

Despite the aforementioned gaps in industry prioritization and support, the industry is only somewhat in sync with user estimations of location intelligence criticality (fig. 68). Where user estimations of the "critical" value of location intelligence grew, it declined among vendors. That said, on a weighted mean basis, industry importance slightly exceeds user importance.

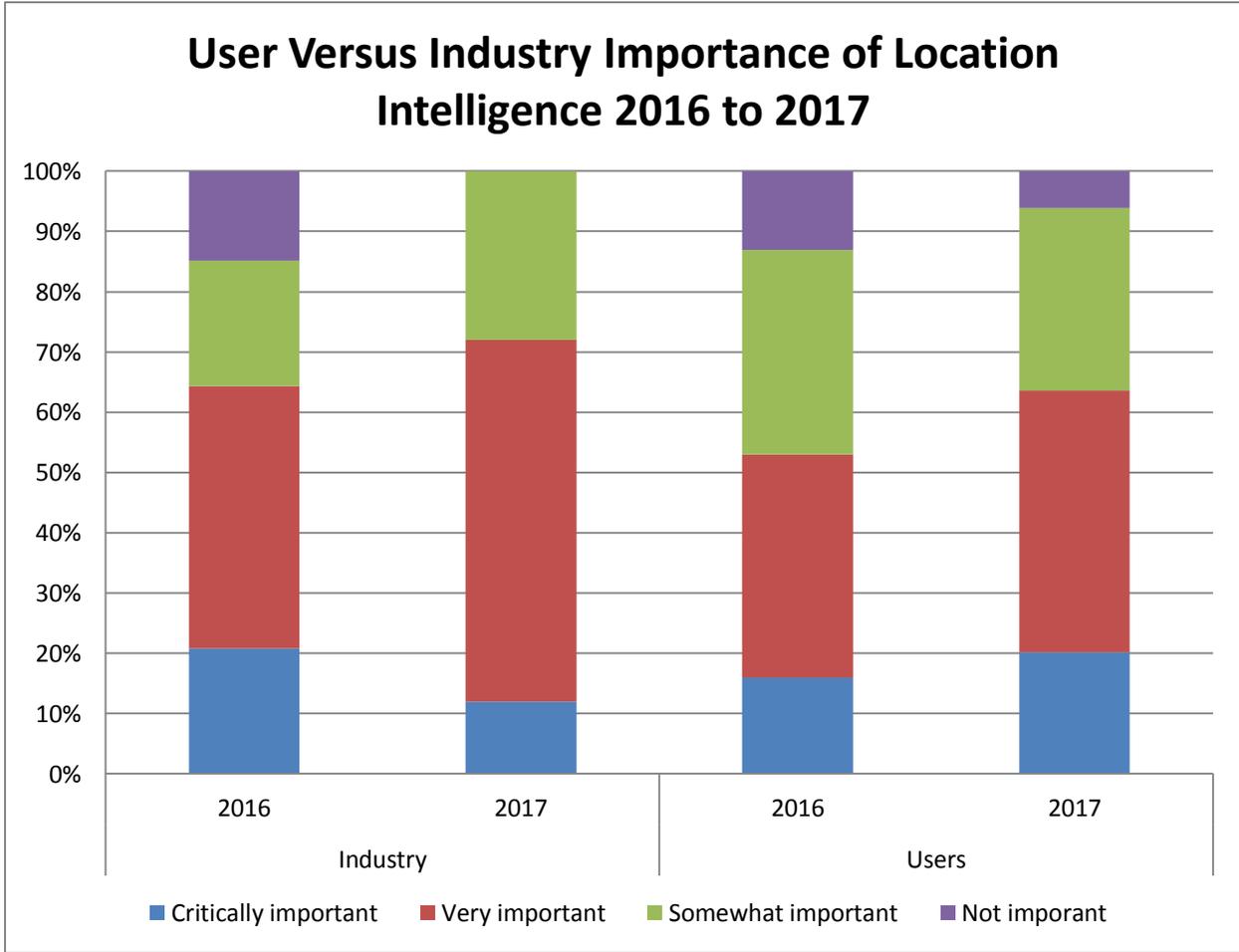


Figure 68 – User versus industry importance of location intelligence 2016 to 2017

## Location Intelligence Vendor Ratings

This year we include 15 business intelligence vendors in our Location Intelligence ratings (fig. 69). For each vendor we considered geocoding support, integration, and location features. Only vendors that scored 50 percent or greater are included in this report.

Top vendors include Qlik (1<sup>st</sup>), Alteryx (2<sup>nd</sup>), Logi Analytics (2<sup>nd</sup>), TIBCO (3<sup>rd</sup>), Domo (4<sup>th</sup>), and Tableau (5<sup>th</sup>).

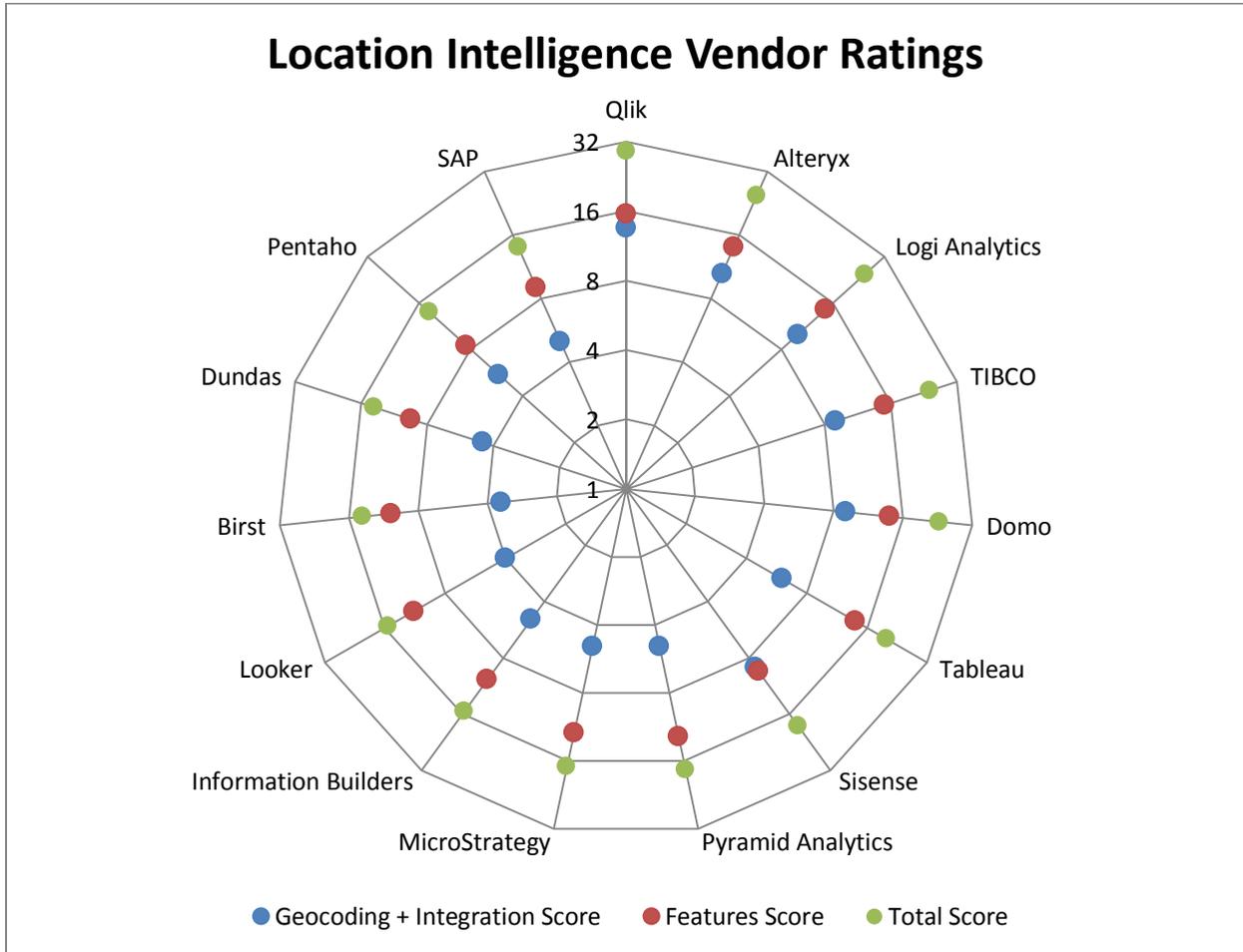


Figure 69 – Location Intelligence vendor ratings

## Other Dresner Advisory Services Research Reports

- [Wisdom of Crowds “Flagship” Business Intelligence Market study](#)
- [Advanced and Predictive Analytics](#)
- [Big Data Analytics](#)
- [Business Intelligence Competency Center](#)
- [Cloud Computing and Business Intelligence](#)
- [Collective Insights<sup>®</sup>](#)
- [End User Data Preparation](#)
- [Enterprise Planning](#)
- [Internet of Things and Business Intelligence](#)
- [Natural Language Analytics](#)
- [Small and Mid-Sized Enterprise Business Intelligence](#)
- [Systems Integrators](#)

## Appendix: Location Intelligence Survey Instrument

Name\*: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

Country: \_\_\_\_\_

Email Address\*: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Major Geography:

- Asia/Pacific
- Europe, Middle East and Africa
- Latin America
- North America

What is your current title?

\_\_\_\_\_

What function are you a part of?

- Business intelligence competency center
- Executive management

- Finance
- Information Technology (IT)
- Manufacturing
- Marketing
- Project/program management office
- Sales
- Research and development (R&D)
- Other - Write In: \_\_\_\_\_

Please select an industry

- Advertising
- Aerospace
- Agriculture
- Apparel and accessories
- Automotive
- Aviation
- Biotechnology
- Broadcasting
- Business services
- Chemical
- Construction
- Consulting
- Consumer products
- Defense
- Distribution & logistics

- ( ) Education
- ( ) Energy
- ( ) Entertainment and leisure
- ( ) Executive search
- ( ) Federal government
- ( ) Financial services
- ( ) Food, beverage and tobacco
- ( ) Healthcare
- ( ) Hospitality
- ( ) Gaming
- ( ) Insurance
- ( ) Legal
- ( ) Manufacturing
- ( ) Mining
- ( ) Motion picture and video
- ( ) Not for profit
- ( ) Pharmaceuticals
- ( ) Publishing
- ( ) Real estate
- ( ) Retail and wholesale
- ( ) Sports
- ( ) State and local government
- ( ) Technology
- ( ) Telecommunications
- ( ) Transportation

Utilities

Other - Write In: \_\_\_\_\_

How many employees does your company employ worldwide?

1 - 100

101 - 1000

1001 - 5000

More than 5000

Does your organization currently use location intelligence products/solutions today?\*

Yes, today

Future plans

No plans

Which product(s) do you current use for location intelligence?

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How satisfied are you with your vendor and product for location intelligence?

Extremely satisfied

Somewhat satisfied

Somewhat unsatisfied

Unsatisfied

What is the level of importance of leveraging geographic location within your Business Intelligence strategy?\*

Critically important

Very important

Somewhat important

Not important

Which functions use or will use location intelligence?

|                             | Frequent                 | Occasionally             | Rarely                   | Not at all               |
|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Sales                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Marketing                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Finance                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Human resources             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Information Technology (IT) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manufacturing               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Which levels of individuals use Location Intelligence in your organization?

|   | Frequently | Occasionally | Rarely | Not at all |
|---|------------|--------------|--------|------------|
| Executives                                | ( )        | ( )          | ( )    | ( )        |
| Middle managers                           | ( )        | ( )          | ( )    | ( )        |
| Line managers                             | ( )        | ( )          | ( )    | ( )        |
| Individual contributors and professionals | ( )        | ( )          | ( )    | ( )        |
| Customers                                 | ( )        | ( )          | ( )    | ( )        |
| Suppliers                                 | ( )        | ( )          | ( )    | ( )        |

What level of geographic detail is required for your organization?

|                    | Critical | Very important | Somewhat important | Not important |
|--------------------|----------|----------------|--------------------|---------------|
| Country            | ( )      | ( )            | ( )                | ( )           |
| Province or state  | ( )      | ( )            | ( )                | ( )           |
| Postal code        | ( )      | ( )            | ( )                | ( )           |
| Latitude/Longitude | ( )      | ( )            | ( )                | ( )           |
| Custom geography   | ( )      | ( )            | ( )                | ( )           |
| Physical store,    | ( )      | ( )            | ( )                | ( )           |

|                                      |     |     |     |     |
|--------------------------------------|-----|-----|-----|-----|
| plant, office or other work facility |     |     |     |     |
| Virtual worlds                       | ( ) | ( ) | ( ) | ( ) |

Which geocoding features are most important to have in your BI/Location Intelligence product?

Geocoding is the process of finding associated geographic coordinates (often expressed as latitude and longitude) from other geographic data, such as street addresses, or ZIP codes (postal codes).

|  | Critical | Very important | Somewhat important | Not important |
|--|----------|----------------|--------------------|---------------|
| Built-in (native) geocoding (e.g., country, region, postal code, CBSA) | ( )      | ( )            | ( )                | ( )           |
| Street-level geocoding support   | ( )      | ( )            | ( )                | ( )           |
| Automated geocoding support  | ( )      | ( )            | ( )                | ( )           |
| Offline geocoding support  | ( )      | ( )            | ( )                | ( )           |
| Worldwide  | ( )      | ( )            | ( )                | ( )           |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| geocoding support                                   |     |     |     |     |
| Customer extensions to map data (e.g., custom POIs) | ( ) | ( ) | ( ) | ( ) |

Which Location Intelligence features are most important to you?

|   | Critical | Very important | Somewhat important | Not important |
|---|----------|----------------|--------------------|---------------|
| Map-based visualization of data/information                             | ( )      | ( )            | ( )                | ( )           |
| Drill down navigation through map interface                             | ( )      | ( )            | ( )                | ( )           |
| Layering of visualizations on top of maps (e.g., heat maps, cartograms) | ( )      | ( )            | ( )                | ( )           |
| Value/range-based shading of maps                                       | ( )      | ( )            | ( )                | ( )           |
| Use of symbols to depict values   | ( )      | ( )            | ( )                | ( )           |
| Dashboard inclusion of maps   | ( )      | ( )            | ( )                | ( )           |
| Animation of data on maps   | ( )      | ( )            | ( )                | ( )           |
| Choropleths (area fill) maps  | ( )      | ( )            | ( )                | ( )           |
| Custom region definition  | ( )      | ( )            | ( )                | ( )           |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| and selection (e.g., polygons, geofencing)  |     |     |     |     |
| Support for location calculations (e.g., drive time, distance, routing)                 | ( ) | ( ) | ( ) | ( ) |
| Support for interior spaces (e.g., retail stores, office buildings, conference centers) | ( ) | ( ) | ( ) | ( ) |
| Off-line mapping  | ( ) | ( ) | ( ) | ( ) |
| Integration with third party GIS systems (e.g., Esri, Google Maps)                      | ( ) | ( ) | ( ) | ( ) |
| Syndicated demographic/psychographic data integration (e.g., Experian, Axiom)           | ( ) | ( ) | ( ) | ( ) |

Do you require integration with third party GIS vendors? If so, which ones?

- Esri
- Google
- Microsoft (Bing)
- MapInfo
- TomTom
- NAVTEQ
- WMS (Web Map Service)
- Database extensions (e.g., Oracle, Postgres)

What percentage of the user population use/will use Location Intelligence applications in your organization?

|              | Under 10% | 11 - 20% | 21 - 40% | 41 - 60% | 61 - 80% | 81% or more |
|--------------|-----------|----------|----------|----------|----------|-------------|
| Today        | ( )       | ( )      | ( )      | ( )      | ( )      | ( )         |
| In 12 months | ( )       | ( )      | ( )      | ( )      | ( )      | ( )         |
| In 24 months | ( )       | ( )      | ( )      | ( )      | ( )      | ( )         |
| In 36 months | ( )       | ( )      | ( )      | ( )      | ( )      | ( )         |

Please specify the importance of on-premises versus cloud deployment options for location intelligence

|                    | Critical | Very important | Somewhat important | Not important |
|--------------------|----------|----------------|--------------------|---------------|
| Cloud-based (SaaS) | ( )      | ( )            | ( )                | ( )           |
| On premises        | ( )      | ( )            | ( )                | ( )           |

Please specify the importance of devices by which users will leverage location intelligence content/applications

|                            | Critical | Very important | Important | Somewhat important | Not important |
|----------------------------|----------|----------------|-----------|--------------------|---------------|
| Desktop or laptop computer | ( )      | ( )            | ( )       | ( )                | ( )           |
| Mobile phone               | ( )      | ( )            | ( )       | ( )                | ( )           |
| Tablet computer            | ( )      | ( )            | ( )       | ( )                | ( )           |
| Smartwatch                 | ( )      | ( )            | ( )       | ( )                | ( )           |

Which Mobile Location Intelligence features are most important to you?

|                                | Critical | Very important | Somewhat important | Not important |
|--------------------------------|----------|----------------|--------------------|---------------|
| Reverse geocoding              | ( )      | ( )            | ( )                | ( )           |
| Location-based query filtering | ( )      | ( )            | ( )                | ( )           |
| Geo fence alerting             | ( )      | ( )            | ( )                | ( )           |