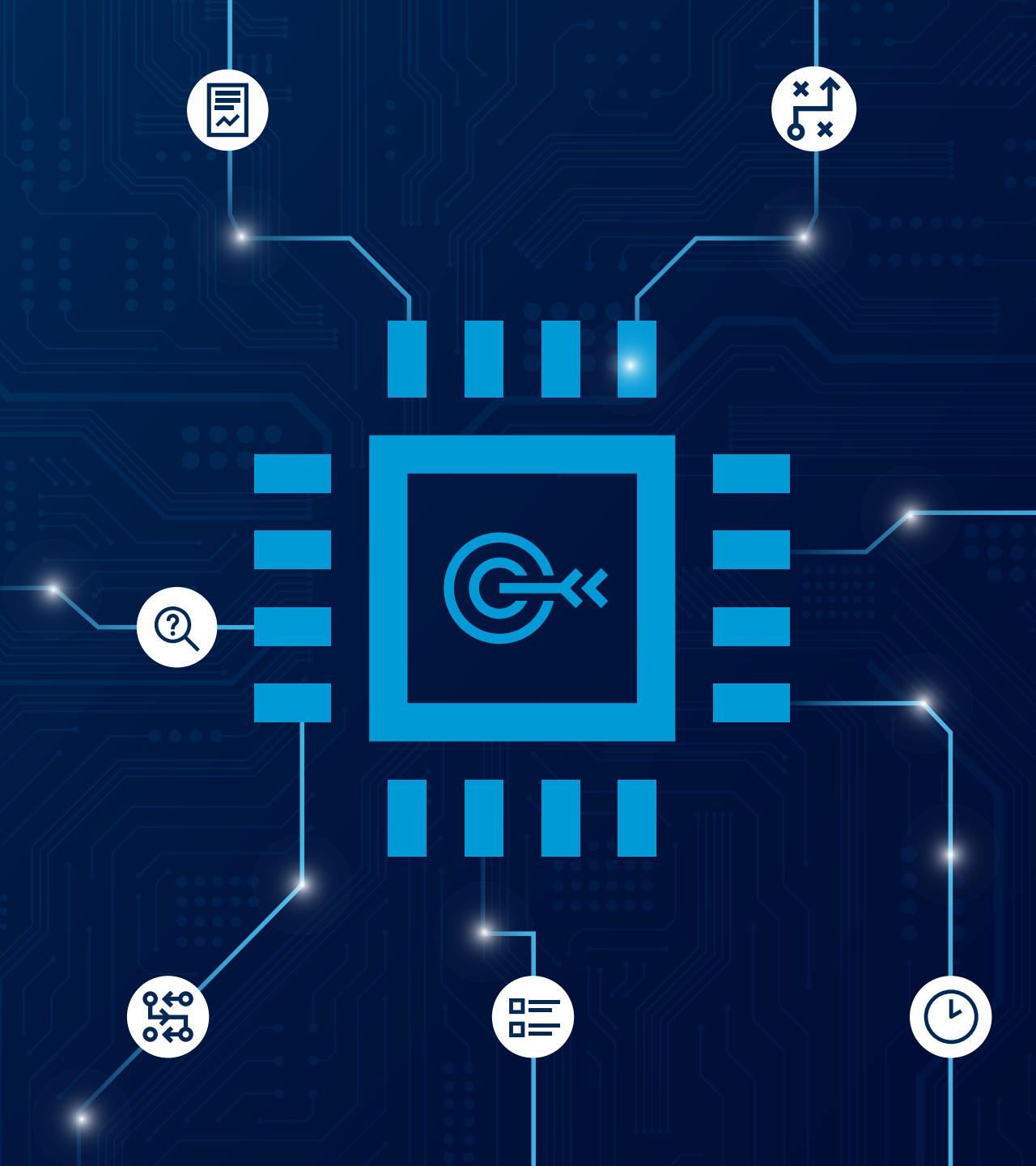


Gartner for Research & Development

# Set Goals, Scope and Time Horizon of an R&D Technology Roadmap





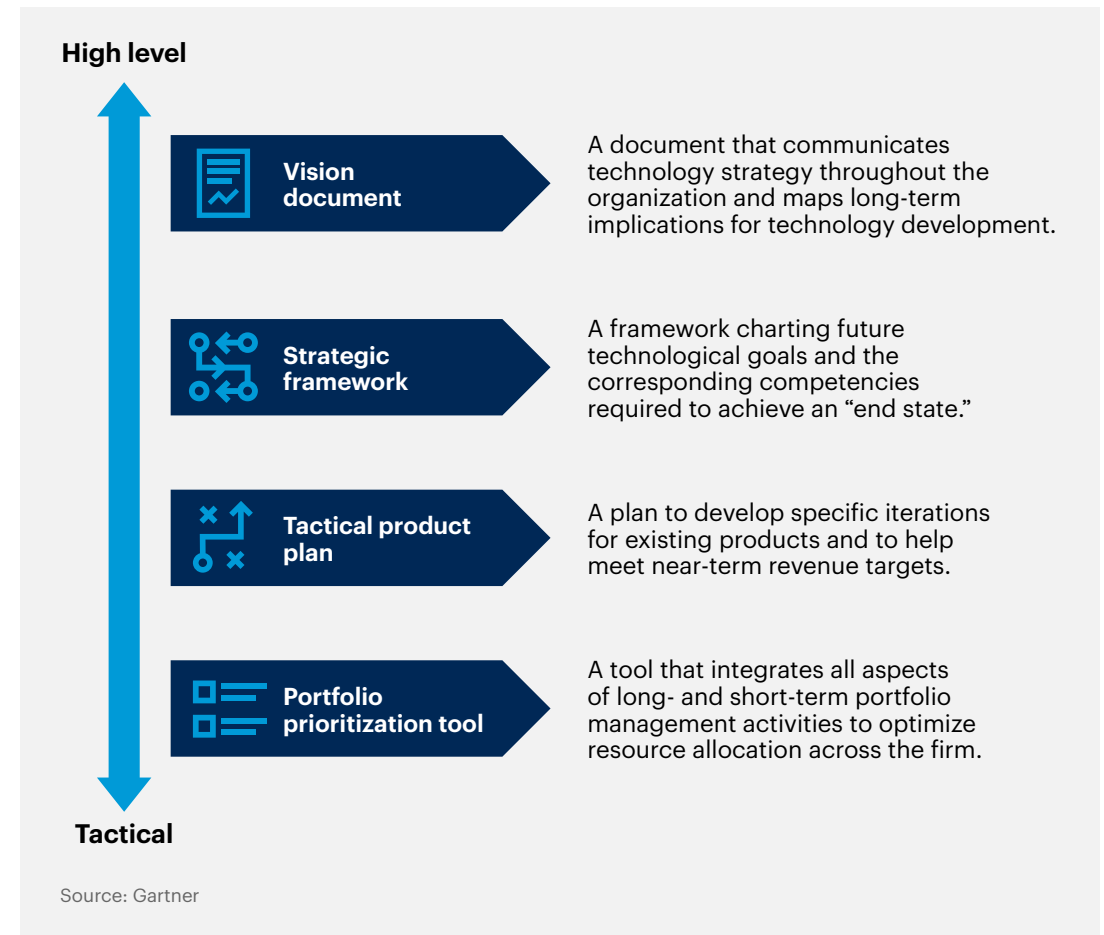
## Define technology roadmapping goals

Defining goals is the most fundamental, yet often opaque, prerequisite for roadmapping. The team cannot produce a powerful strategy without first understanding why they've been asked to build a roadmap in the first place. Companies initiate a roadmapping effort with a wide spectrum of possible goals in mind. These goals span a number of technology and business needs (e.g., exploring new opportunities, preparing for potential disruptions or maturing existing capabilities). It's essential the team understands what they're trying to deliver before they begin.

It's important for R&D leaders to assemble the senior roadmapping stakeholders and pose questions that will clarify their expectations. For example:

- What is our company's vision and strategic objectives?
- How will this technology roadmap help achieve strategic objectives?
- What is the intended audience for this roadmap?
- Will this roadmap be used as a planning tool or an initial vision for the future? What type of decisions will the roadmap's intended audience make, based on the roadmap?
- Is the roadmap more strategic, with the aim to understand how certain technologies might evolve over time?
- Are we building a stand-alone roadmap for each platform/product category, or are we rolling up multiple roadmaps into one enterprise view?
- Should the roadmap include precise estimates of effort needed to build specific technology capabilities?

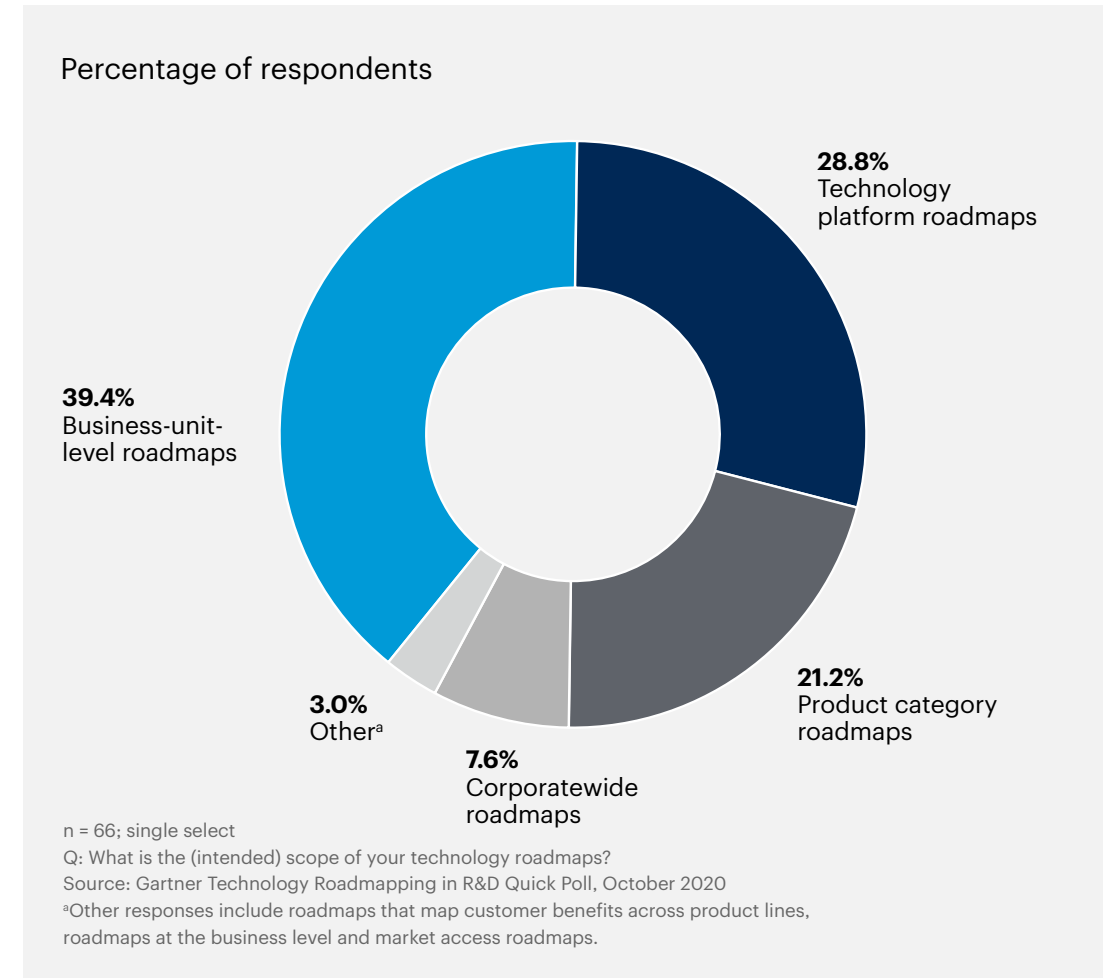
Figure 2: Technology roadmapping goals



## Set technology roadmapping scope

Senior stakeholders must also provide guidance on what's in scope for the analysis and final deliverables. Roadmaps are most commonly organized by business, but it's also quite common for roadmaps to focus on technology platforms or specific product categories. Companies rarely create a single corporatewide roadmap, as this option is most typically reserved for strategic views of new or disruptive technology spaces that the organization is considering (e.g., how should Internet of Things [IoT] platform investments link across the enterprise's silos?).

Figure 3: R&D technology roadmapping scope



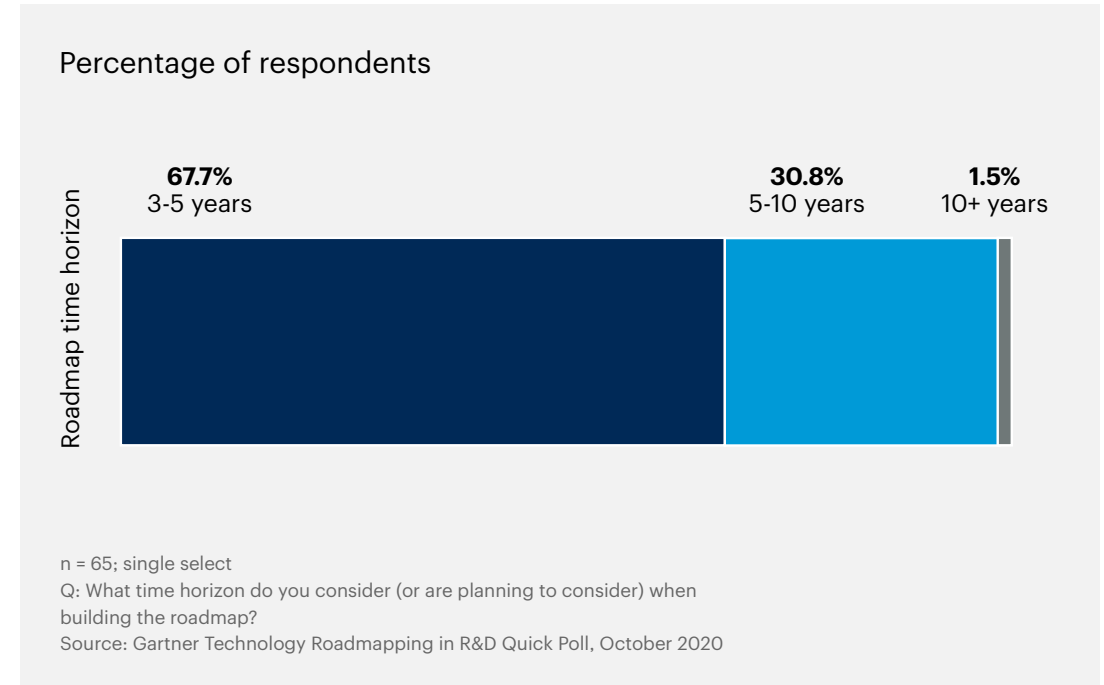
## Establish technology roadmapping horizon

While time horizon can vary based on the roadmap's goals and scope, it must be set and agreed upon before the team begins the exercise. R&D technology roadmaps typically aim to chart technology development 5 to 10 years into the future. This can vary significantly, however, depending on the industry, organizational goals and the nature of the technology itself.

Companies rarely develop roadmaps beyond 10 years as the uncertainty increases with time, making active investments in those areas less tenable. Exceptions tend to be in industries with long R&D cycle times, or when a company incubates a new or emerging technology that typically sits outside its core competencies. If your organization is considering a longer-term roadmap, pressure-test whether you need a roadmap to communicate the path of technology evolution over time, or if the organization would be better served by building a long-range technology radar of emerging technologies.

Companies typically use quarterly or semiannual milestones in shorter-term, tactical roadmaps, while longer-term roadmaps can feature yearly or even more spread-out milestones.

Figure 4: Roadmap time horizon



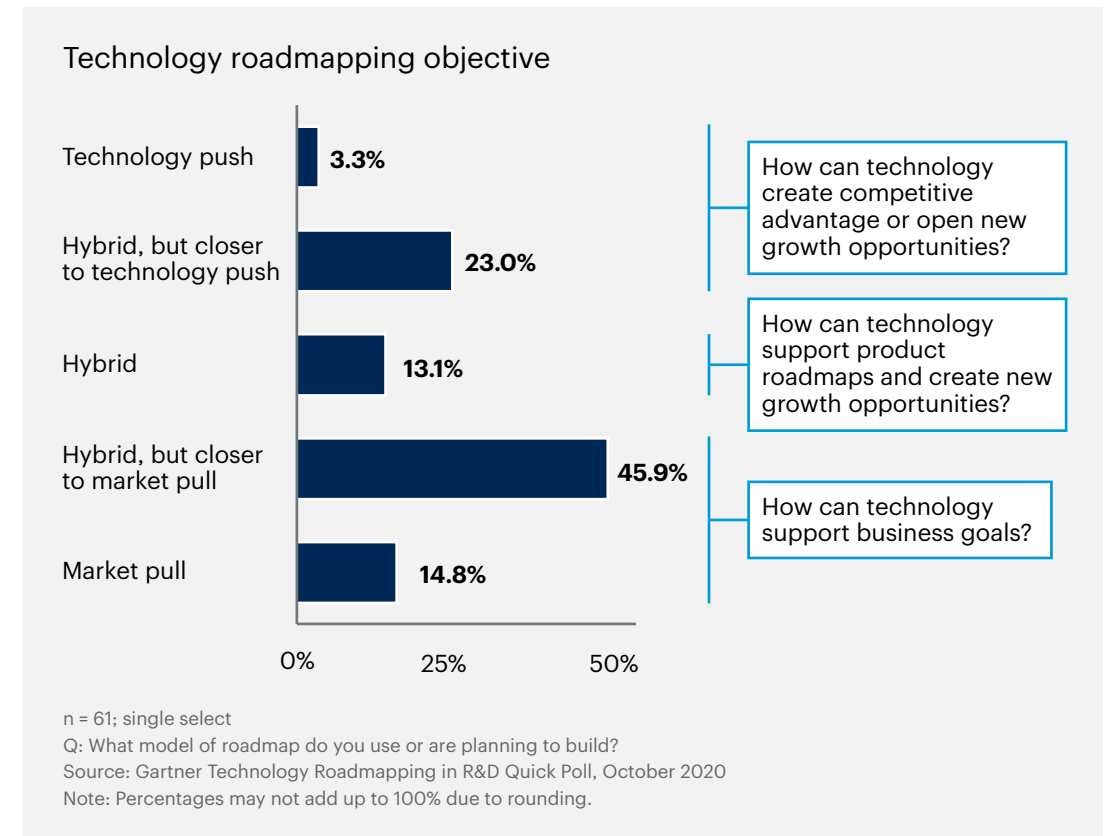
## Use goals, scope and time horizon to determine your optimal roadmapping model

The technology roadmapping goal, scope and time horizon will help your R&D organization understand the most appropriate roadmap model to match your needs. At their most basic level, all technology roadmaps fall into one of three categories:

- **Market-pull roadmaps** depict technology competencies required to support product roadmaps or launch plans. These roadmaps typically start with an existing market need. Market-pull roadmaps are most effective for communicating how technologies support business objectives and, consequently, helping teams prioritize technology project goals based on business partner and market needs. They tend to be shorter-term in nature — typically in the three- to five-year range.
- **Technology-push roadmaps** depict product and market growth opportunities driven by differentiated or emerging technologies. These tend to start with a technological solution or capability that the company has already developed. They are often longer-term and tend to include analysis that recommends investments over the next 5 to 10 years.
- **Hybrid roadmaps** act as bridges between the market-pull and technology-push models. These depict technology competencies required for product launches and a prioritized set of technologies with the potential to create a long-term competitive advantage.





Seeking stakeholder guidance around roadmapping goals, scope and time horizon will often clearly point the roadmapping team to the most suitable model.

Figure 5: Technology roadmapping model



# Actionable, objective insight

Explore these additional complimentary resources and tools for R&D leaders:

 <p><b>Guide</b> An R&amp;D Leader's Guide to Technology Roadmap Models</p> <p>Determine the right model to translate your R&amp;D technology strategy into an effective R&amp;D technology roadmap.</p> <p><a href="#">Download Now</a></p>	 <p><b>Report</b> Build R&amp;D Technology Roadmaps That Drive Stakeholder Engagement</p> <p>Create compelling technology roadmaps that succinctly communicate your R&amp;D technology strategy with key stakeholders.</p> <p><a href="#">Download Now</a></p>	 <p><b>Webinar</b> Build an R&amp;D Technology Roadmap That Drives New Product Development</p> <p>Hear how leading organizations use technology roadmapping to proactively identify and fill technical capability gaps.</p> <p><a href="#">Watch Now</a></p>	 <p><b>How We Help</b> Gartner for R&amp;D</p> <p>Explore insights, guidance and tools to enable you to drive growth through product innovation.</p> <p><a href="#">Learn More</a></p>
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