

[QuickLinks](#) -- Click here to rapidly navigate through this document

PROSPECTUS

This filing is made pursuant
to Rule 424(b)(3) under the
Securities Act of 1933, as amended, in
connection with registration
No. 333-100994

213,316 Shares ODETICS, INC. Class A Common Stock

This prospectus relates to the offering from time to time of a total of 213,316 shares of the Class A common stock of Odetics, Inc. by the selling stockholders listed on page 14. All of these shares were issued to the selling stockholders in cancellation of outstanding indebtedness owed to the selling stockholders by us or our subsidiaries. The prices at which the selling stockholders may sell their shares will be determined by the prevailing market price for their shares or in negotiated transactions. We will not receive any of the proceeds from the sale of these shares.

We have two classes of common stock outstanding—the Class A common stock and the Class B common stock. The rights, preferences and privileges of each class of common stock are identical in all respects except for voting rights. As of the date of this prospectus, the holders of the Class A common stock are entitled to elect 25% of the Board of Directors rounded up to the nearest whole number, or two directors, and the holders of the Class A common stock and the Class B common stock, voting together as a single class, are entitled to elect the balance of the Board, or six directors. On all other matters to be addressed by a stockholder vote, the holders of Class A common stock have one-tenth of one vote per share held and the holders of Class B common stock have one vote per share held.

Our Class A common stock and our Class B common stock are quoted on the Nasdaq SmallCap Market under the symbol "ODETA" and "ODETB," respectively. On October 31, 2002, the last reported sale price for the Class A common stock was \$0.68 per share and on October 29, 2002, the last reported sale price for the Class B common stock was \$0.62 per share.

You should carefully consider the risk factors beginning on page 3 of this prospectus before purchasing any of the Class A common stock offered by this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is November 13, 2002.

ODETICS

Odetics, Inc. provides products, systems and services that control and manage the use of public roadways, secure access to public and private facilities, and secure the delivery of digital communications. Our company was founded in 1969 to supply digital recorders for use in the United States space program. We pioneered new designs and standards for digital magnetic tape recorders offering high reliability and enhanced performance in the adverse environment attendant to space flight. In the 1970s, we broadened our information automation product line to include time-lapse videocassette recorders for commercial security and surveillance applications, and entered the business of manufacturing telecom network synchronization products. Through our MAXxess Systems, Inc. (previously known as Gyyr Incorporated) subsidiary, we became a leading supplier of time-lapse videotape cassette recorders, and we pioneered new products incorporating digital video technologies and related CCTV products used in security and surveillance systems. In April 2001, we sold Gyyr's Vortex Dome and Quarterback Controller product lines. Then in September 2001, we sold the assets of our CCTV product line, and changed the name of our Gyyr subsidiary to MAXxess Systems, Inc. to continue to pursue the security market with electronic access control products and systems.

Beginning in the late 1970s, we developed and manufactured telecom synchronization products in our Communications division. We incorporated our Communications division in fiscal 1999 as our wholly-owned subsidiary, Zyfer, Inc., as part of our business expansion to develop products focused on the security aspects of data traffic over ground and satellite links, and network communications.

Leveraging our expertise in video image processing, we entered into the intelligent transportation system, or ITS, business with the introduction of a video-based vehicle detection system in 1993. In June 1997, we acquired certain assets comprising the Transportation Systems business from Rockwell International, creating our ITS division, which expanded our offerings to include advanced traffic management systems and advanced traveler information systems. We incorporated our ITS division in 1998 as Odetics ITS, Inc. In October 1998, we broadened our systems offerings by acquiring Meyer, Mohaddes Associates, Inc. In January 2000, we reincorporated Odetics ITS in Delaware and changed its name to Iteris, Inc. Odetics currently owns 78.2% of the outstanding common stock of Iteris, or 62.7% as calculated for the preferred stock conversion equivalent. Meyer, Mohaddes Associates, Inc. currently operates as a wholly-owned subsidiary of Iteris, Inc.

In the early 1980s, we developed the technical expertise to apply automation to new commercial applications and established our Odetics Broadcast division. We incorporated our Odetics Broadcast division in 1999 as Broadcast, Inc. Broadcast is a supplier of content management

and delivery solutions for the television, cable and satellite industries. The success of our videotape libraries led us to pursue new applications for information automation technologies. In 1991, we introduced an automated tape handling subsystem for integration into tape libraries designed for midrange computers and client/server networks. In January 1993, we formed a separate subsidiary, ATL Products, Inc., to pursue the market for automated tape libraries. In March 1997, ATL completed an initial public offering of 1,650,000 shares of its Class A common stock. We distributed our remaining 82.9% interest in ATL to our stockholders in a tax-free distribution in October 1997.

Odetics products address the security and data management needs of the transportation, defense, facility security, and broadcast industries. Odetics is a market leader for video-based sensors used for surface transportation, a developer of integrated systems for facility security and trace detection of dangerous chemicals and explosives, and a provider of automation systems to the broadcast industry. Odetics is also a leading provider of equipment built around specific government mandates for secured communications.

Our principal executive offices are located at 1515 South Manchester Avenue, Anaheim, California 92802, and our telephone number is (714) 774-5000.

RISK FACTORS

Our business is subject to a number of risks, some of which are discussed below. Other risks are presented elsewhere in this prospectus and in the information incorporated by reference into the prospectus. You should consider the following risks carefully in addition to the other information contained in this prospectus (including the information incorporated by reference) before purchasing the shares of our common stock. The risks and uncertainties described below are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations. If any of these risks actually occur, our business, financial condition or results of operations could be seriously harmed. In that event, the market price for our common stock could decline and you may lose all or part of your investment.

Before deciding to buy, hold or sell our common stock, you should carefully consider the risks described below, in addition to the other information contained in this prospectus and in our other filings with the SEC, including our Annual Report on Form 10-K for the year ended March 31, 2002, as well as our subsequent reports on Form 10-Q and 8-K.

We Have Experienced Substantial Losses and Expect to Continue Experiencing Losses for the Foreseeable Future. We experienced operating losses of \$0.3 million in the three months ended June 30, 2002, \$10.8 million in the year ended March 31, 2002, \$37.9 million in the year ended March 31, 2001 and \$32.9 million in the year ended March 31, 2000. In the quarter ended September 30, 2001, we downsized our business in connection with our sale of the Gyr CCTV products line, the discontinuation of the business of our Mariner Networks subsidiary and the reorganization of our European operations. We cannot assure you that our efforts to downsize our operations will improve our financial performance, or that we will be able to achieve profitability on a quarterly or annual basis in the future. Most of our expenses are fixed in advance, and we generally are unable to reduce our expenses significantly in the short-term to compensate for any unexpected delay or decrease in anticipated revenues. As a result, we may continue to experience losses, which would make it difficult to fund our operations and achieve our business plan, and could cause the market price of our common stock to decline.

We Will Need to Raise Additional Capital in the Future, But We May Not Be Able to Secure Adequate Funds on Terms Acceptable to Us, or at All. We have generated significant net losses in recent periods, and have experienced negative cash flows from operations of \$1.1 million in the three months ended June 30, 2002, \$18.2 million in the year ended March 31, 2002 and \$20.1 million in the year ended March 31, 2001. Although we completed the sale of our Anaheim, California property in May 2002, the majority of the proceeds of such sale were used to repay outstanding short-term indebtedness. We anticipate that we will need to raise additional capital in the future. Our Iteris subsidiary currently maintains a line of credit with a maximum availability of \$5.0 million, which expires in August 2004. Substantially all of the assets of Iteris have been pledged to the lender to secure the outstanding indebtedness under this facility (although there were no amounts outstanding under the line of credit at November 1, 2002). We also incurred cash obligations in the amount of \$3.0 million payable over the next seven months related to the discontinuation of Mariner Networks and the reorganization of our European operations. We plan to raise additional capital in the near future, either through bank borrowings, other debt or equity financings, or the divestiture of business units or select assets. We cannot assure you that any additional capital will be available on a timely basis, on acceptable terms, or at all. These conditions, together with our recurring losses and cash requirements, raise substantial doubt about our ability to continue as a going concern.

Our capital requirements will depend on many factors, including:

- our ability to control costs;
- market acceptance of our products and the overall level of sales of our products;

- our ability to generate operating income;
- increased research and development funding, and required investments in our business units;
- increased sales and marketing expenses;
- technological advancements and our competitors' response to our products;
- capital improvements to new and existing facilities;
- potential acquisitions of businesses and product lines;

- our relationships with customers and suppliers; and
- general economic conditions, including the effects of the current economic slowdown and international conflicts.

If our capital requirements are materially different from those currently planned, we may need additional capital sooner than anticipated. If additional funds are raised through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders will be reduced and such securities may have rights, preferences and privileges senior to our common stock. Additional financing may not be available on favorable terms or at all. If adequate funds are not available or are not available on acceptable terms, we may be unable to continue our operations as planned, develop or enhance our products, expand our sales and marketing programs, take advantage of future opportunities or respond to competitive pressures.

The Trading Price of Our Common Stock Is Highly Volatile And You May Not Be Able to Resell Your Shares of Stock At or Above the Price You Paid for Them. The trading price of our common stock has been subject to wide fluctuations in the past. Since January 2000, our common stock has traded at prices as low as \$0.49 per share and as high as \$29.44 per share. In April 2002, because we failed to meet the minimum stockholder's equity requirement for continued listing on the Nasdaq National Market, both our Class A common stock and Class B common stock were delisted from the Nasdaq National Market and subsequently approved for listing on the Nasdaq SmallCap Market. If our stock price continues to decline or declines below \$1.00 per share for a period of time, our common stock could be subject to delisting from the Nasdaq SmallCap Market and there may not be a market for our stock. We may not be able to increase or sustain the current market price of our common stock in the future. As such, you may not be able to resell your shares of common stock at or above the price you paid for them. The market price of our common stock could continue to fluctuate in the future in response to various factors, including, but not limited to:

- quarterly variations in operating results;
- our ability to control costs and improve cash flow;
- shortages announced by suppliers;
- announcements of technological innovations or new products by our competitors, customers or us;
- acquisitions or businesses, products or technologies;
- changes in pending litigation or new litigation;
- changes in investor perceptions;
- our ability to spin-off any business unit;
- applications or product enhancements by us or by our competitors; and
- changes in earnings estimates or investment recommendations by securities analysts.

The stock market in general has recently experienced volatility, which has particularly affected the market prices of equity securities of many high technology companies. This volatility has often been unrelated to the operating performance of these companies. These broad market fluctuations may adversely affect the market price of our common stock. In the past, companies that have experienced volatility in the market price of their securities have been the subject of securities class action litigation. If we were to become the subject of a class action lawsuit, it could result in substantial losses and divert management's attention and resources from other matters.

We Depend on Government Contracts and Subcontracts, and Because Many of our Government Contracts are Fixed Price Contracts, Higher Than Anticipated Costs Will Reduce Our Profits. A significant portion of the sales by Iteris and a portion of the sales by Zyfer were derived from contracts with governmental agencies, either as a general contractor, subcontractor or supplier. Government contracts represented approximately 24%, 26% and 38% of our total net sales and contract revenues for the years ended March 31, 2000, 2001 and 2002, respectively. We anticipate that revenue from government contracts will continue to increase in the near future. Government business is, in general, subject to special risks and challenges, including:

- long purchase cycles or approval processes;
- competitive bidding and qualification requirements;
- performance bond requirements;
- changes in government policies and political agendas;
- delays in funding, budgetary constraints and cut-backs; and
- milestone requirements and liquidated damage provisions for failure to meet contract milestones.

In addition, a large number of our government contracts are fixed price contracts. As a result, we may not be able to recover for any cost overruns. These fixed price contracts require us to estimate the total project cost based on preliminary projections of the project's requirements. The financial viability of any given project depends in large part on our ability to estimate these costs accurately and complete the project on a timely basis. In the event our costs on these projects exceed the fixed contractual amount, we will be required to bear the excess costs. These additional costs adversely affect our financial condition and results of operations. Moreover, certain of our government contracts are subject to

termination or renegotiation at the convenience of the government, which could result in a large decline in our net sales in any given quarter. Our inability to address any of the foregoing concerns or the loss or renegotiation of any material government contract could seriously harm our business, financial condition and results of operations.

The Recent Worldwide Economic Slowdown and Related Uncertainties Could Adversely Impact the Demand for Our Products.

Concerns about inflation, decreased consumer confidence, reduced corporate profits and capital spending, and recent international conflicts and terrorist and military actions have resulted in a downturn in worldwide economic conditions, particularly in the United States. As a result of these unfavorable economic conditions, we have experienced a slowdown in customer orders, cancellations and rescheduling of backlog and higher overhead costs. In addition, recent political and social turmoil related to international conflicts and terrorist acts can be expected to put further pressure on economic conditions in the U.S. and worldwide. These political, social and economic conditions make it extremely difficult for our customers, our suppliers and us to accurately forecast and plan future business activities. If such conditions continue or worsen, our business, financial condition and results of operations will likely be materially and adversely affected.

Our Quarterly Operating Results Fluctuate as a Result of Many Factors. Therefore, We May Fail to Meet or Exceed the Expectations of Securities Analysts and Investors, Which Could Cause Our Stock Price to Decline. Our quarterly revenues and operating results have fluctuated and are likely to continue to vary from quarter to quarter due to a number of factors, many of which are not within our control. Factors that could affect our revenues include, among others, the following:

- our ability to raise additional capital;
- our significant investment in research and development for our subsidiaries and business units;
- our ability to control costs;
- international conflicts and acts of terrorism;
- our ability to develop, introduce, market and gain market acceptance of new products applications and product enhancements in a timely manner;
- the size, timing, rescheduling or cancellation of significant customer orders;
- the introduction of new products by competitors;
- the availability of components used in the manufacture of our products;
- changes in our pricing policies and the pricing policies by our suppliers and competitors, pricing concessions on volume sales, as well as increased price competition in general;
- the long lead times associated with government contracts or required by vehicle manufacturers;
- our success in expanding and implementing our sales and marketing programs;
- the effects of technological changes in our target markets;
- our relatively small level of backlog at any given time;
- the mix of sales among our business units;
- deferrals of customer orders in anticipation of new products, applications or product enhancements;
- the risks inherent in our acquisitions of technologies and businesses;
- risks and uncertainties associated with our international business;
- currency fluctuations and our ability to get currency out of certain foreign countries; and
- general economic and political conditions.

In addition, our sales in any quarter may consist of a relatively small number of large customer orders. As a result, the timing of a small number of orders may impact our quarter-to-quarter results. The loss of or a substantial reduction in orders from any significant customer could seriously harm our business, financial condition and results of operations.

Due to all of the factors listed above and other risks discussed in this prospectus, our future operating results could be below the expectations of securities analysts or investors. If that happens, the trading price of our common stock could decline. As a result of these quarterly variations, you should not rely on quarter-to-quarter comparisons of our operating results as an indication of our future performance.

Our Operating Strategy for Developing Companies is Expensive, Requires the Commitment of Significant Time and Resources, and May Not Be Successful. Our business strategy historically has required us to make significant investments in our business units. These investments are expensive and require the commitment of significant time and resources. We expect to continue to invest in the development of

certain of our business units with the goal of achieving profitability in each of our business units, and to a lesser extent, to monetize those business units for the benefit of our stockholders through an initial public offering, spin-off or sale to a strategic buyer. We may not recognize the benefits of this investment for a significant period of time, if at all. Our ability to achieve profitability in any business unit, to complete any private or public offerings of securities by any of our business units, and/or to spin-off our interest in the business unit to our stockholders will depend upon many factors, including:

- the overall performance and results of operations of the particular business unit;
- the potential market for our business unit;
- our ability to assemble and retain a qualified management team for the business unit;
- our financial position and cash requirements;
- the business unit's customer base and product line;
- the current tax treatment of spin-off and sale transactions, and our ability to obtain favorable determination letters from the Internal Revenue Service; and
- general economic and market conditions, including the receptiveness of the stock markets to initial public offerings and private placements.

We may not be able to achieve profitability in our business units, to complete a successful private or public offering or to spin-off any of our business units in the near future, or at all. During fiscal 2001, we attempted to complete the initial public offering of Iteris, but withdrew the offering due to adverse market conditions. Even if we are able to achieve profitability and the market is receptive to public offerings, we may decide not to complete any further offerings, not to spin-off a particular business unit, or to delay a spin-off until a later date.

If We Do Not Keep Pace with Rapid Technological Changes and Evolving Industry Standards, We Will Not be Able to Remain Competitive and There Will Be No Demand for Our Products. Our target markets are in general characterized by the following factors:

- rapid technological advances;
- downward price pressure in the marketplace as technologies mature;
- changes in customer requirements;
- frequent new product introductions and enhancements; and
- evolving industry standards and changes in the regulatory environment.

Our future success will depend upon our ability to anticipate and adapt to changes in technology and industry standards, and to effectively develop, introduce, market and gain broad acceptance of new products and product enhancements incorporating the latest technological advancements.

We believe that we must continue to make substantial investments to support ongoing research and development in order to remain competitive. We need to continue to develop and introduce new products that incorporate the latest technological advancements in hardware, storage media, operating system software and applications software in response to evolving customer requirements. Our business and results of operations could be adversely affected if we do not anticipate or respond adequately to technological developments or changing customer requirements. We cannot assure you that any such investments in research and development will lead to any corresponding increase in revenue.

If We are Unable to Develop and Introduce New Products and Product Enhancements Successfully and in a Cost-Effective and Timely Manner, or to Achieve Market Acceptance of Our New Products, our Operating Results Would be Adversely Affected. We believe our revenue growth and future operating results will

depend on our ability to complete development of new products and enhancements, introduce these products in a timely, cost-effective manner, achieve broad market acceptance of these products and enhancements, and reduce our product costs. We may not be able to introduce any new products or any enhancements to our existing products on a timely basis, or at all. In addition, the introduction of any new products could adversely affect the sales of certain of our existing products.

Our future success will also depend in part on the success of several recently introduced products including CommSync II, a Zyfer solution for applying precision and timing and synchronization systems to high performance communication systems; AutoVue, our lane departure warning system; and AIRO 9.0, our broadcast automation solution. Market acceptance of our new products depends upon many factors, including our ability to accurately predict market requirements and evolving industry standards, our ability to resolve technical challenges in a timely and cost-effective manner and achieve manufacturing efficiencies, the perceived advantages of our new products over traditional products and the marketing capabilities of our independent distributors and strategic partners. Our business and results of operations could be seriously harmed by any significant delays in our new product development. Certain of our new products could contain undetected design faults and software errors or "bugs" when first released by us, despite our testing. We may not discover these faults or errors until after a product has been installed and used by our customers. Any faults or errors in our existing products or in any new products may cause delays in product introduction and shipments, require design modifications or harm customer relationships, any of which could adversely affect our business and competitive position.

Iteris currently outsources the manufacture of its AutoVue product line to a single manufacturer. This manufacturer may not be able to produce sufficient quantities of this product in a timely manner or at a reasonable cost, which could materially and adversely affect our ability to launch or gain market acceptance of AutoVue.

We Have Significant International Sales and Our International Business Operations May be Threatened by Many Factors That are Outside of Our Control. International sales represented 6% of our net sales and contract revenues for the three months ended June 30, 2002, 10% of our net sales and contract revenues for the fiscal year ended March 31, 2002 and 20% for the fiscal year ended March 31, 2001. During the fiscal year ended March 31, 2002, we reorganized our European operations, which included the discontinuation of our Odetics Europe Ltd., MAXxess Europe Ltd., Mariner France and Mariner Europe Ltd. operations, and the transition of our Broadcast and MAXxess international operations to branch office operations with the intent of lowering our international costs. This reorganization may result in significantly lower international sales in future periods and unanticipated liabilities related to the closures and we may not achieve the anticipated cost savings. We may also face challenges in managing and transitioning our international operations due to our limited experience operating through branch offices. In addition, the recent terrorist attacks in the United States and abroad and heightened security may adversely impact our international sales and could make our international operations more expensive.

International business operations are also subject to other inherent risks, including, among others:

- unexpected changes in regulatory requirements, tariffs and other trade barriers or restrictions;
- longer accounts receivable payment cycles;
- difficulties in managing and staffing international operations;
- potentially adverse tax consequences;
- the burdens of compliance with a wide variety of foreign laws;
- import and export license requirements and restrictions of the United States and each other country in which we operate;

8

-
- exposure to different legal standards and reduced protection for intellectual property rights in some countries;
 - currency fluctuations and restrictions; and
 - political, social and economic instability.

We believe that international sales will continue to represent a significant portion of our revenues, and that continued growth and profitability may require further expansion of our international operations. Nearly all of our international sales from this point on are denominated in U.S. dollars. As a result, an increase in the relative value of the dollar could make our products more expensive and potentially less price competitive in international markets. We do not engage in any transactions as a hedge against risks of loss due to foreign currency fluctuations.

Any of the factors mentioned above may adversely affect our future international sales and, consequently, affect our business, financial condition and operating results. Furthermore, as we increase our international sales, our total revenues may also be affected to a greater extent by seasonal fluctuations resulting from lower sales that typically occur during the summer months in Europe and other parts of the world.

Acquisitions of Companies or Technologies May Require Us to Undertake Significant Capital Infusions and Result in Disruptions of Our Business and Diversion of Resources and Management Attention. Over the past few years, we have expanded our operations and made several substantial acquisitions of diverse businesses, including Intelligent Controls, Inc., International Media Integration Services, Ltd., Meyer Mohaddes Associates, Inc., Viggen Corporation, and certain assets of the Transportation Systems business of Rockwell International. We may engage in acquisitions of complementary businesses, products and technologies. Acquisitions may require significant capital infusions and, in general, acquisitions also involve a number of special risks, including:

- potential disruption of our ongoing business and the diversion of our resources and management's attention;
- the failure to retain or integrate key acquired personnel;
- the challenge of assimilating diverse business cultures, and the difficulties in integrating the operations, technologies and information system of the acquired companies;
- increased costs to improve managerial, operational, financial and administrative systems and to eliminate duplicative services;
- the incurrence of unforeseen obligations or liabilities;
- potential impairment of relationships with employees or customers as a result of changes in management; and
- increased interest expense and amortization of acquired intangible assets.

Acquisitions may also materially and adversely affect our operating results due to large write-offs, contingent liabilities, substantial depreciation, deferred compensation charges or goodwill amortization, or other adverse tax or audit consequences. Our failure to manage growth and integrate our acquisitions successfully could adversely affect our business, financial condition and results of operations.

Our competitors are also soliciting potential acquisition candidates, which could both increase the price of any acquisition targets and decrease the number of attractive companies available for acquisition. We cannot assure you that we will be able to consummate any additional

acquisitions, successfully integrate any acquisitions or realize the benefits anticipated from any acquisition.

The Markets in Which We Operate Are Highly Competitive and Have Many More Established Competitors, Which Could Adversely Affect Our Sales or the Market Acceptance of Our Products. We compete with numerous other companies in our target markets and we expect such competition to increase due to technological advancements, industry consolidations and reduced barriers to entry. Increased competition is likely to result in price reductions, reduced gross margins and loss of market share, any of which could seriously harm our business, financial condition and results of operations. Many of our competitors have far greater name recognition and greater financial, technological, marketing and customer service resources than we do. This may allow them to respond more quickly to new or emerging technologies and changes in customer requirements. It may also allow them to devote greater resources to the development, promotion, sale and support of their products than we can. Recent consolidations of end users, distributors and manufacturers in our target markets have exacerbated this problem. As a result of the foregoing factors, we may not be able to compete effectively in our target markets and competitive pressures could adversely affect our business, financial condition and results of operations.

We Do Not Have Employment Agreements with Any Key Personnel and We May be Unable to Attract and Retain Key Personnel, Which Could Seriously Harm Our Business. Due to the specialized nature of our business, we are highly dependent on the continued service of our executive officers and other key management, engineering and technical personnel, particularly Joel Slutzky, our Chairman of the Board, who recently retired as our Chief Executive Officer, and Gregory A. Miner, our Chief Executive Officer and Chief Financial Officer. The leadership transition between Mr. Slutzky and Mr. Miner could adversely affect our business. We do not have any employment contracts with any of our officers or key employees. The loss of any of these individuals could adversely affect our business, financial condition or results of operations.

Our success will also depend in large part upon our ability to continue to attract, retain and motivate qualified engineering and other highly skilled technical personnel. Competition for employees, particularly development engineers, is intense. We may not be able to continue to attract and retain sufficient numbers of such highly skilled employees. Our inability to attract and retain additional key employees or the loss of one or more of our current key employees could adversely affect our business, financial condition and results of operations.

We May Not be Able to Adequately Protect or Enforce Our Intellectual Property Rights, Which Could Harm Our Competitive Position. If we are not able to adequately protect or enforce the proprietary aspects of our technology, competitors could be able to access our proprietary technology and our business, financial condition and results of operations will likely be seriously harmed. We currently attempt to protect our technology through a combination of patent, copyright, trademark and trade secret laws, employee and third party nondisclosure agreements and similar means. Despite our efforts, other parties may attempt to disclose, obtain or use our technologies or solutions. Our competitors may also be able to independently develop products that are substantially equivalent or superior to our products or design around our patents. In addition, the laws of some foreign countries do not protect our proprietary rights as fully as do the laws of the United States. As a result, we may not be able to protect our proprietary rights adequately in the United States or abroad.

From time to time, we have received notices that claim we have infringed upon the intellectual property of others. Even if these claims are not valid, they could subject us to significant costs. We have engaged in litigation in the past, and litigation may be necessary in the future to enforce our intellectual property rights or to determine the validity and scope of the proprietary rights of others. Litigation may also be necessary to defend against claims of infringement or invalidity by others. An adverse outcome in litigation or any similar proceedings could subject us to significant liabilities to third parties, require us to license disputed rights from others or require us to cease marketing or using certain products or technologies. We may not be able to obtain any licenses on terms acceptable to us, or at all. We also may have to indemnify certain customers or strategic partners if it is determined that

we have infringed upon or misappropriated another party's intellectual property. Any of these results could adversely affect our business, financial condition and results of operations. In addition, the cost of addressing any intellectual property litigation claim, both in legal fees and expenses, and the diversion of management resources, regardless of whether the claim is valid, could be significant and could seriously harm our business, financial condition and results of operations.

Some of Our Directors, Officers and Their Affiliates can Control the Outcome of Matters that Require the Approval of Our Stockholders, and Accordingly We Will Not be Able to Engage in Certain Transactions Without Their Approval. As of September 4, 2002, our officers and directors beneficially owned approximately 23% of the total combined voting power of the outstanding shares of our Class A common stock and Class B common stock. As a result of their stock ownership, our management will be able to significantly influence the election of our directors and the outcome of corporate actions requiring stockholder approval, such as mergers and acquisitions, regardless of how our other stockholders may vote. This concentration of voting control may have a significant effect in delaying, deferring or preventing a change in our management or change in control and may adversely affect the voting or other rights of other holders of common stock.

Our Stock Structure and Certain Anti-Takeover Provisions May Affect the Price of Our Common Stock and Discourage a Third Party from Acquiring Us. Certain provisions of our certificate of incorporation and our stockholder rights plan could make it difficult for a third party to acquire us, even though an acquisition might be beneficial to our stockholders. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock. Our Class A common stock entitles the holder to one-tenth of one vote per share and our Class B common stock entitles the holder to one vote per share. The disparity in the voting rights between our common stock, as well as our insiders' significant ownership of the Class B common stock, could discourage a proxy contest or make it more difficult for a third party to effect a change in our management and control. In addition, our Board of Directors is authorized to issue, without stockholder approval, up to 2,000,000 shares of preferred stock with voting, conversion and other rights and preferences superior to those of our common stock, as well as additional shares of Class B common stock. Our future issuance of preferred stock or Class B common stock could be used to discourage an unsolicited acquisition proposal.

In March 1998, we adopted a stockholder rights plan and declared a dividend of preferred stock purchase rights to our stockholders. In the event a third party acquires more than 15% of the outstanding voting control of our company or 15% of our outstanding common stock, the holders

of these rights will be able to purchase the junior participating preferred stock at a substantial discount off of the then current market price. The exercise of these rights and purchase of a significant amount of stock at below market prices could cause substantial dilution to a particular acquiror and discourage the acquiror from pursuing our company. The mere existence of a stockholder rights plan often delays or makes a merger, tender offer or proxy contest more difficult.

We Do Not Pay Cash Dividends. We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends on either class of our common stock in the foreseeable future.

We May Be Subject to Additional Risks. The risks and uncertainties described above are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also adversely affect our business operations.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy any document we file with the SEC at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our SEC filings are also available to the public at the SEC's web site at <http://www.sec.gov>.

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC. Pursuant to the SEC rules, this prospectus, which forms a part of the registration statement, does not contain all of the information in such registration statement. You may read or obtain a copy of the registration statement from the SEC in the manner described above.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. The documents we incorporate by reference are:

1. Our Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 filed with the SEC on August 14, 2002;
2. Our definitive Proxy Statement filed with the SEC on July 29, 2002 in connection with our 2002 Annual Meeting of Stockholders held on September 13, 2002;
3. Our Annual Report on Form 10-K for the fiscal year ended March 31, 2002 filed with the SEC on July 1, 2002;
4. Our Current Report on Form 8-K filed with the SEC on June 12, 2002;
5. The description of our Class A common stock contained in our registration statement on Form 8-A filed with the SEC on October 14, 1987, including any amendment or report filed for the purpose of updating such description; and
6. The description of our preferred stock purchase rights contained in our registration statement on Form 8-A filed with the SEC on May 1, 1998, including any amendment or report filed for the purpose of updating such description.

In addition, we incorporate by reference all reports and other documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, after the date of this prospectus and prior to the termination of this offering and all such reports and documents will be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such reports and documents. Any statement incorporated herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide without charge to each person to whom this prospectus is delivered, upon written or oral request of such person, a copy of any or all of the foregoing documents incorporated herein by reference. Requests for documents should be submitted in writing to the Secretary, at Odetics, Inc., 1515 South Manchester Avenue, Anaheim, California 92802, or by telephone at (714) 774-5000.

FORWARD-LOOKING STATEMENTS

All statements included or incorporated by reference in this prospectus, other than statements or characterizations of historical fact, are forward-looking statements. Examples of forward-looking

statements include, but are not limited to, statements concerning projected expenses, growth in revenue from government contracts, our ability to control costs, our accounting estimates, assumptions and judgments, our investment in the development for our subsidiaries and business units, the market acceptance and performance of our products, the competitive nature of our markets, our ability to achieve product integration, the status of, and our ability to keep pace with, evolving technologies, the development and market acceptance of new product introductions, the adoption of future industry standards, our production capacity, our ability to consummate acquisitions and integrate their operations successfully, the need for additional capital, our ability to raise capital, and our ability to achieve profitability, monetize and spin-off or sell any of our business units. These forward-looking statements are based on our current expectations, estimates and projections about our industry, management's

beliefs, and certain assumptions made by us. Forward-looking statements can often be identified by words such as "anticipates," "expects," "intends," "plans," "predicts," "believes," "seeks," "estimates," "may," "will," "should," "would," "potential," "continue," similar expressions and variations or negatives of these words. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. These forward-looking statements speak only as of the date of this prospectus and are based upon the information available to us at this time. Such information is subject to change, and we will not necessarily inform you of such changes. These statements are not guarantees of future performance and are subject to risks, uncertainties and assumptions that are difficult to predict. Therefore, our actual results could differ materially and adversely from those expressed in any forward-looking statements as a result of various factors, some of which are listed under the section "Risk Factors" beginning on page 3 of this prospectus. We undertake no obligation to revise or update publicly any forward-looking statements for any reason.

USE OF PROCEEDS

The shares of Class A common stock offered by this prospectus will be sold by the selling stockholders, and the selling stockholders will receive all of the proceeds from sales of such shares. We will not receive any proceeds from sales of the shares offered by this prospectus.

13

SELLING STOCKHOLDERS

The following table sets forth the number of shares of our Class A common stock beneficially owned by the selling stockholders as of October 28, 2002, based on the selling stockholders' representations regarding their ownership. We cannot estimate the number of shares that will be held by the selling stockholders after completion of this offering because the selling stockholders may sell all or some of their shares and because there currently are no agreements, arrangements or understandings with respect to the sale of any of their shares. Except as indicated in this section, we are not aware of any material relationship between us and the selling stockholders within the past three years other than as a result of the selling stockholders' beneficial ownership of our common stock. On October 28, 2002, 14,080,914 shares of our Class A common stock were outstanding.

Selling Stockholders	Number of Shares	Number of Shares Being Offered in Offering	Beneficially Owned After Offering(1)	
			Number of Shares	Percent(2)
Tom Thomas(3)	19,000	19,000	—	—
John W. Seazholtz(4)	33,547	19,000	14,547	*
Paul Wright(5)	49,294	10,300	38,994	*
Patti S. Hart(6)	4,100	4,100	—	—
Aventuras II Partners(7)	31,879	31,879	—	—
Dean E. Wolf(8)	10,447	10,447	—	—
Kevin C. and Susan T. Daly TTEE(9)	16,000	16,000	—	—
Stradling Yocca Carlson and Rauth, a professional corporation(10)	104,893	104,893	—	—

* Represents less than 1%.

- (1) This table assumes that all shares owned by the selling stockholders which are offered by this prospectus are being sold. The selling stockholders reserve the right to accept or reject, in whole or in part, any proposed sale of shares. The selling stockholders also may offer and sell less than the number of shares indicated. The selling stockholders are not making any representation that any shares covered by this prospectus will or will not be offered for sale.
- (2) Based on 14,080,914 shares of Class A common stock outstanding on October 28, 2002.
- (3) 19,000 shares were issued in payment of \$16,750 in board fees owed by us and \$15,500 in board fees owed by our wholly-owned subsidiary, Mariner Networks, Inc. Mr. Thomas is a member of our board of directors and from January 2000 to September 2001, he also served as the Chairman of the board of directors of Mariner Networks. The business of Mariner Networks was discontinued in September 2001.
- (4) 19,000 shares were issued in payment of \$17,500 in board fees owed by us and \$14,750 in board fees owed by Mariner Networks. Mr. Seazholtz is a member of our board of directors and from March 2000 to September 2001, was also a member of the board of directors of Mariner Networks.
- (5) 10,300 shares were issued in payment of \$17,500 in board fees owed by us. Mr. Wright is a member of our board of directors and is also a member of the board of directors of our subsidiary, Iteris, Inc.
- (6) 4,100 shares were issued in payment of \$7,000 in board fees owed by Mariner Networks. Ms. Hart was formerly a member of the board of directors of Mariner Networks.
- (7) 31,879 shares were issued to Aventuras II Partners, an affiliate of Beyer Weaver & Thomas, LLP, in consideration for the cancellation of \$54,193 of outstanding legal fees and expenses. Beyer

14

Weaver & Thomas, LLP has served as intellectual property counsel for us and certain of our subsidiaries from time to time.

- (8) Beyer Weaver & Thomas, LLP assigned \$17,760 of the amount owed by us to Mr. Wolf. 10,447 shares were issued to Mr. Wolf in cancellation of such indebtedness.
- (9) 9,411 shares were issued to Mr. Daly in payment of board fees owed to him by us and 6,589 shares were issued to Mr. Daly for services rendered as a member of our board in lieu of other director compensation to which he was entitled. Mr. Daly is a member of our board of directors.
- (10) 104,893 shares were issued in consideration for the cancellation of \$157,339 of outstanding legal fees and expenses. Stradling Yocca Carlson and Rauth has served as corporate counsel for us and certain of our subsidiaries from time to time.

The selling stockholders acquired the shares held by them and offered by this prospectus pursuant to agreements by which the selling stockholders cancelled indebtedness owed by us or our subsidiaries in consideration for the issuance of shares of our Class A common stock. The price of the Class A common stock to each of the selling stockholders was \$1.70 per share, except that the price of the Class A common stock to Stradling Yocca Carlson and Rauth was \$1.50 per share.

We agreed to effect a shelf registration (of which this prospectus is a part) to register all of these shares in order to permit the selling stockholders to sell these shares from time to time in the public market or in privately-negotiated transactions.

With respect to the shares of stock owned by Stradling Yocca Carlson and Rauth, we have agreed to prepare and file any amendments and supplements to the registration statement relating to these shares as may be necessary to keep the registration statement effective until the earlier of:

- (i) the date on which all of the shares covered by this prospectus have been sold; and
- (ii) the date on which all of the shares covered by this prospectus may be sold pursuant to Rule 144(k) under the Securities Act of 1933, as amended.

With respect to the shares of stock owned by the other selling stockholders, we have agreed to prepare and file any amendments and supplements to the registration statement relating to these shares as may be necessary to keep the registration statement effective until the earlier of (i) the date on which all of the shares covered by this prospectus have been sold, and (ii) two years after the date hereof.

This prospectus also covers any additional shares of Class A common stock which become issuable in connection with the shares being registered by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration which results in an increase in the number of our outstanding shares of Class A common stock. In addition, this prospectus covers the preferred stock purchase rights which currently trade with the Class A common stock and entitle the holder to purchase additional shares of Class A common stock under certain circumstances. See "Risk Factors—Our Stock Structure and Certain Anti-Takeover Provisions May Affect the Price of Our Common Stock and Discourage a Third Party from Acquiring Us."

PLAN OF DISTRIBUTION

We are registering the shares of Class A common stock covered by this prospectus on behalf of the selling stockholders. We will not receive any of the proceeds from sales of the shares by the selling stockholders.

The selling stockholders named in this prospectus, or pledgees, donees, transferees or other successors-in-interest selling shares received from the selling stockholders as a gift, partnership distribution or other non-sale related transfer after the date of this prospectus, may sell or otherwise dispose of these shares from time to time. The selling stockholders will act independently of Odetics in making decisions with respect to the timing, manner and size of each disposition. The dispositions may be made on one or more exchanges or in the over-the-counter market or otherwise at prices and at terms then prevailing or at prices related to the then current market price or in negotiated transactions. The selling stockholders may effect such transactions by selling their shares to or through broker-dealers. The shares may be sold by one or more of, or a combination of, the following:

- a block trade in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by such broker-dealer for its account under this prospectus;
- an exchange distribution in accordance with the rules of such exchange;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers; or
- in privately negotiated transactions.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in such resales.

The selling stockholder may enter into hedging transactions with broker-dealers in connection with distributions of the shares or otherwise. In such transactions, broker-dealers may engage in short sales of the shares in the course of hedging the positions they assume with the selling stockholder. The selling stockholder also may sell shares short and redeliver the shares to close out such short positions. The selling stockholder may enter into option or other transactions with broker-dealers which require the delivery to the broker-dealer of the shares. The broker-dealer may then resell or otherwise transfer such shares under this prospectus. The selling stockholder also may loan or pledge the shares to a broker-dealer.

The broker-dealer may sell the shares so loaned, or upon a default the broker-dealer may sell the pledged shares under this prospectus.

Broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from the selling stockholders. Broker-dealers or agents may also receive compensation from the purchasers of the shares for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular broker-dealer might be in excess of customary broker-dealers or the selling stockholders may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act in connection with sales of the shares. Accordingly, any such commission, discount or concession received by them and any profit on the resale of the shares purchased by them may be deemed to be underwriting discounts or commissions under the Securities Act. Because selling stockholders may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act, the selling stockholders will be subject to the prospectus delivery requirements of the Securities Act.

In addition, any securities covered by this prospectus which qualify for sale under Rule 144 promulgated under the Securities Act may be sold under Rule 144 rather than under this prospectus.

16

The selling stockholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities. There is no underwriter or coordinating broker acting in connection with the proposed sale of shares by the selling stockholders.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the shares may not simultaneously engage in market making activities with respect to our common stock for a period of two business days prior to the commencement of such distribution. In addition, each selling stockholder will be subject to applicable provisions of the Exchange Act and the associated rules and regulations under the Exchange Act, including Regulation M, which provisions may limit the timing of purchase and sales of shares of our common stock by the selling stockholders. We will make copies of this prospectus available to the selling stockholders and have informed them of the need for delivery of copies of this prospectus to purchasers at or prior to the time of any sale of the shares.

We will file a supplement to this prospectus, if required, under Rule 424(b) under the Securities Act upon being notified by a selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer. Such supplement will disclose:

- the name of each such selling stockholder and of the participating broker-dealer(s),
- the number of shares involved,
- the price at which such shares were sold,
- the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable,
- that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and
- other facts material to the transaction.

In addition, upon being notified by a selling stockholder that a donee or pledgee intends to sell more than 500 shares, we will file a supplement to this prospectus.

We will bear all costs, expenses and fees in connection with the registration of the shares. The selling stockholders will bear all commissions and discounts, if any, attributable to the sales of their shares. The selling stockholders may agree to indemnify any broker-dealer or agent that participates in transactions involving sales of their shares against certain liabilities, including liabilities arising under the Securities Act. In addition, we have agreed to indemnify the selling stockholders and their affiliates against certain liabilities, including liabilities arising under the Securities Act.

LEGAL MATTERS

The legality of the shares offered hereby will be passed upon for Odetics by Brobeck, Phleger & Harrison LLP, Irvine, California.

17

EXPERTS

Ernst & Young LLP, independent auditors, have audited our consolidated financial statements and schedule included in our Annual Report on Form 10-K for the year ended March 31, 2002, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern as described in Note 1 to our consolidated financial statements), which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our consolidated financial statements and schedule are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

We have not authorized any person to make a statement that differs from what is in this prospectus. If any person does make a statement that differs from what is in this prospectus, you should not rely on it. This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any state in which the offer or sale is not permitted. The information in this prospectus is complete and accurate as of its date, but the information may change after that date.

TABLE OF CONTENTS

	Page
RISK FACTORS	3
WHERE YOU CAN FIND MORE INFORMATION	12
FORWARD-LOOKING STATEMENTS	12
USE OF PROCEEDS	13
SELLING STOCKHOLDERS	14
PLAN OF DISTRIBUTION	16
LEGAL MATTERS	17
EXPERTS	18

ODETICS, INC.

213,316 Shares of Class A common stock

PROSPECTUS

QuickLinks

[ODETICS](#)
[RISK FACTORS](#)
[WHERE YOU CAN FIND MORE INFORMATION](#)
[FORWARD-LOOKING STATEMENTS](#)
[USE OF PROCEEDS](#)
[SELLING STOCKHOLDERS](#)
[PLAN OF DISTRIBUTION](#)
[LEGAL MATTERS](#)
[EXPERTS](#)