

HILTON HOTELS CORP  
Form 424B3  
April 16, 2004

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Registration No. 333-107159

Prospectus Supplement No. 3 dated April 14, 2004  
(To Prospectus dated August 20, 2003)

**HILTON HOTELS CORPORATION**  
**\$575,000,000**  
**3.375% Convertible Senior Notes due 2023**

This prospectus supplement supplements the prospectus dated August 20, 2003, as amended and supplemented from time to time (the "Prospectus") of Hilton Hotels Corporation, relating to the resale by holders of our 3.375% Senior Convertible Notes due 2023 (the "Notes") and the shares of our common stock issuable upon conversion of the Notes.

This prospectus supplement should be read in conjunction with the Prospectus. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of the Prospectus or this prospectus supplement. Any representation to the contrary is a criminal offense.

The following table sets forth certain information, as of April 14, 2004 with respect to the principal amount of Notes beneficially owned and the number of shares of common stock issuable upon conversion of those Notes that may be offered from time to time under the Prospectus by the selling securityholders named in the table. This information is based on information provided by or on behalf of the selling securityholders. The selling securityholders may offer all, a portion or none of the Notes or common stock issuable upon conversion of the Notes. Because the selling securityholders may offer all or a portion of the Notes or common stock, we cannot estimate the amount of the Notes or the common stock that will be held by the selling securityholders upon termination of any of these sales. In addition, selling securityholders identified below may have sold, transferred or otherwise disposed of all or a portion of their Notes since the date on which they provided the information regarding their Notes in transactions exempt from the registration requirements of the Securities Act. The percentage of Notes outstanding beneficially owned by each selling securityholder is based on \$575,000,000 aggregate principal amount of Notes outstanding. The number of shares of common stock owned prior to the offering does not include shares of common stock issuable upon conversion of the Notes. The number of shares of common stock issuable upon conversion of the Notes is based on an initial conversion price of \$22.50 per share. This conversion rate is subject to adjustment as described under "Description of the Notes Conversion Rate Adjustments" in the Prospectus. Accordingly, the number of conversion shares may increase or decrease from time to time. Unless set forth below, to our knowledge none of the selling securityholders has had a material relationship with us or any of our affiliates within the past three years.

The Prospectus is hereby supplemented as follows to restate, in its entirety, the table of selling security holders under the caption "Selling Securityholders" contained on pages 39-44 of the Prospectus:

| Name   | Principal Amount of Notes Beneficially Owned and Offered | Percentage of Notes Outstanding | Shares of Common Stock Owned Prior to the Offering(1) | Conversion Shares Offered(2) | Percentage of Common Stock Outstanding(3) |
|--|--|---------------------------------|---|------------------------------|---|
| AIG DKR SoundShore Opportunity Holding Fund Ltd. | 4,000,000  | *                               |   | 177,777                      | *   |
| Akanthos Arbitrage Master Fund, L.P.             | 5,000,000  | *                               |   | 222,222                      | *   |
| Alcon Laboratories                               | 419,000  | *                               |   | 18,622                       | *   |
| Allstate Insurance Company                       | 1,500,000  | *                               | 33,200(4)   | 66,666                       | *   |

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|   |            |       |           |   |
|---|------------|-------|-----------|---|
| Arapahoe County, Colorado                                       | 51,000     |       | 2,266     | * |
| Argent Classic Convertible Arbitrage (Bermuda) Fund Ltd.        | 1,350,000  | *     | 60,000    | * |
| Argent Classic Convertible Arbitrage Fund L.P.                  | 650,000    | *     | 28,888    | * |
| Argent Low Lev Convertible Arbitrage Fund Ltd.                  | 7,800,000  | 1.36% | 346,666   | * |
| Argent LowLev Convertible Arbitrage Fund LLC                    | 1,200,000  | *     | 53,333    | * |
| Arlington County Employees Retirement System                    | 723,000    | *     | 32,133    | * |
| Asante Health Systems   | 93,000     | *     | 4,133     | * |
| Asymmetric Convertible Fund Ltd.                                | 2,500,000  | *     | 111,111   | * |
| Bank America Pension Plan                                       | 1,500,000  | *     | 66,666    | * |
| Bank Austria Cayman Islands, LTD                                | 2,500,000  | *     | 111,111   | * |
| Bank of America Securities LLC(5)                               | 4,534,000  | *     | 211,511   | * |
| Barclays Global Investors Limited                               | 500,000    | *     | 22,000    | * |
| Beamtenversicherungskasse des Kantons Zurich                    | 2,700,000  | *     | 120,000   | * |
| British Virgin Islands Social Security Board                    | 96,000     | *     | 4,266     | * |
| City and County of San Francisco Retirement System              | 1,600,000  | *     | 71,111    | * |
| City of New Orleans   | 220,000    | *     | 9,777     | * |
| City University of New York                                     | 162,000    | *     | 7,200     | * |
| Clinton Convertible Managed Trading Account 1 Limited           | 320,000    | *     | 14,222    | * |
| Clinton Multistrategy Master Fund, Ltd.                         | 6,115,000  | 1.06% | 271,777   | * |
| CNH CA Master Account, L.P.                                     | 1,000,000  | *     | 44,444    | * |
| Coda KPHE Convertible Fund                                      | 100,000    | *     | 4,444     | * |
| Coda Capital Management LLC                                     | 400,000    | *     | 17,777    | * |
| Context Convertible Arbitrage Fund, L.P.                        | 825,000    | *     | 36,666    | * |
| Context Convertible Arbitrage Offshore, LTD                     | 1,175,000  | *     | 52,222    | * |
| Continental Assurance Co. on Behalf of its Separate Account (E) | 900,000    | *     | 40,000    | * |
| Continental Casualty Company                                    | 7,100,000  | 1.23% | 315,555   | * |
| DBAG-London   | 41,750,000 | 7.26% | 1,855,555 | * |
| Delaware Public Employees Retirement System                     | 1,677,000  | *     | 74,533    | * |
| Deutsche Bank Securities Inc.(5)                                | 500,000    | *     | 22,222    | * |
| Dylan (IMA) LTD   | 5,000,000  | *     | 222,222   | * |
| Erste Bank der esterreichischen Sparkassen AG                   | 2,000,000  | *     | 88,888    | * |

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|--|------------|-------|---------|---|
| Excelsior Master Fund L.P.   | 1,000,000  | *     | 44,444  | * |
| Family Service Life Insurance Co.                                      | 100,000    | *     | 4,444   | * |
| Gaia Offshore Master Fund Ltd.   | 900,000    | *     | 40,000  | * |
| Gasner Investors Holdings Ltd.   | 2,500,000  | *     | 111,111 | * |
| Geode U.S. Convertible Arbitrage Fund, a series of Geode Invetors, LLC | 1,000,000  | *     | 44,444  | * |
| Georgia Municipal Employees Benefit System                             | 642,000    | *     | 28,533  | * |
| GLG Market Neutral Fund  | 15,000,000 | 2.61% | 666,666 | * |
| Grady Hospital Foundation  | 144,000    | *     | 6,400   | * |
| Guardian Life Insurance Co.  | 5,200,000  | *     | 231,111 | * |
| Guardian Pension Trust   | 400,000    | *     | 17,777  | * |
| Guggenheim Portfolio Co. XV, LLC                                       | 850,000    | *     | 37,777  | * |
| HFR Arbitrage Fund   | 578,000    | *     | 25,688  | * |

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|---|------------|-------|-----------|---|
| HFR TQA Master Trust c/o TQA Investors, LLC       | 74,000     | *     | 3,288     | * |
| Highbridge International LLC                      | 10,000,000 | 1.74% | 444,444   | * |
| Investec Bank (UK) Limited                        | 500,000    | *     | 22,222    | * |
| Jefferies Umbrella Fund Global Convertible Bond   | 50,000     | *     | 2,222     | * |
| John Deere Pension Trust                          | 500,000    | *     | 22,222    | * |
| KBC Financial Products USA Inc.                   | 450,000    | *     | 20,000    | * |
| LDG Limited                                       | 89,000     | *     | 3,955     | * |
| Lexington Vantage Fund c/o TQA Investors          | 16,000     | *     | 711       | * |
| Lydian Global Opportunities Master Fund Limited   | 7,500,000  | 1.30% | 333,333   | * |
| Lydian Overseas Partners Master Fund              | 48,000,000 | 8.35% | 2,133,333 | * |
| Lyxor/Gaia II Fund Ltd.                           | 1,850,000  | *     | 82,222    | * |
| Lyxor Master Fund                                 | 2,000,000  | *     | 88,888    | * |
| McMahan Securities Co. L.P.                       | 36,000     | *     | 1,600     | * |
| Meadow IAM Limited                                | 410,000    | *     | 18,222    | * |
| Merrill Lynch, Pierce, Fenner and Smith, Inc.     | 300,000    | *     | 13,333    | * |
| MFS Total Return Fund, a Series of Series Trust V | 8,500,000  | 1.47% | 377,777   | * |
| Mill River Master Fund, L.P.                      | 1,500,000  | *     | 66,666    | * |
| Morgan Stanley Income Builder Fund                | 2,000,000  | *     | 88,888    | * |
| Morgan Stanley Variable Income Builder Fund       | 1,000,000  | *     | 44,444    | * |
| Municipal Employees                               | 259,000    | *     | 11,511    | * |
| Nisswa Master Fund Ltd.                           | 3,000,000  | *     | 133,333   | * |
| NMIC Gartmore / Coda Convertible Portfolio        | 2,000,000  | *     | 88,888    | * |
| Occidental Petroleum Corporation                  | 287,000    | *     | 12,755    | * |

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|--|------------|-------|---------|---|
| Oppenheimer Convertible Securities Fund          | 4,000,000  | *     | 177,777 | * |
| Pacific Life Insurance Company                   | 500,000    | *     | 22,222  | * |
| Pensionskasse der Antalis AG                     | 40,000     | *     | 1,777   | * |
| Pensionskasse der Ems-Chemie AG                  | 50,000     | *     | 2,222   | * |
| Pensionskasse der Ems- Dottikon AG               | 70,000     | *     | 3,111   | * |
| Pensionskasse der Lonza AG                       | 100,000    | *     | 4,444   | * |
| Pensionskasse der PV Promea AG                   | 80,000     | *     | 3,555   | * |
| Pensionskasse der Rockwell Automation AG         | 40,000     | *     | 1,777   | * |
| Pensionskasse Vantico                            | 60,000     | *     | 2,666   | * |
| Peoples Benefit Life Insurance Company Teamsters | 12,500,000 | 2.17% | 555,555 | * |
| Pro-Mutual                                       | 812,000    | *     | 36,088  | * |
| Putnam Convertible Income- Growth Trust          | 7,500,000  | 1.3%  | 333,333 | * |
| Ramius, LP                                       | 150,000    | *     | 6,666   | * |
| Ramius Capital Group                             | 500,000    | *     | 22,222  | * |
| Ramius Master Fund, LTD                          | 3,425,000  | *     | 152,222 | * |
| Ramius Partners II, L.P.                         | 200,000    | *     | 8,888   | * |
| RCG Baldwin, L.P.                                | 600,000    | *     | 26,666  | * |
| RCG Halifax Master Fund, LTD                     | 500,000    | *     | 22,222  | * |
| RCG Latitude Master Fund, LTD                    | 4,925,000  | *     | 218,888 | * |
| RCG Multi Strategy Master Fund, LTD              | 800,000    | *     | 35,555  | * |
|  | 38,000     | *     | 1,688   | * |

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| Sphinx Convertible Arb Fund Master Fund Ltd.                         |            |       |           |         |
| Sphinx Fund c/o TQA Investors, LLC                                   | 17,000     | *     | 755       | *       |
| St. Albans Partners Ltd  | 14,000,000 | 2.43% | 622,222   | *       |
| State of Maryland Retirement Agency                                  | 3,469,000  | *     | 154,177   | *       |
| Sunrise Partners Limited Partnership                                 | 4,500,000  | *     | 13,332    | 200,000 |
| The City University of New York                                      | 162,000    | *     | 7,200     | *       |
| The Coast Fund, L.P.   | 10,000,000 | 1.74% | 444,444   | *       |
| The Grable Foundation  | 96,000     | *     | 4,266     | *       |
| Thrivent Financial for Lutherans                                     | 3,000,000  | *     | 133,333   | *       |
| TQA Master Fund, LTD   | 828,000    | *     | 36,800    | *       |
| TQA Master Plus Fund, LTD  | 571,000    | *     | 25,377    | *       |
| Topanga XI   | 700,000    | *     | 31,111    | *       |
| Tribeca Investments LTD  | 2,500,000  | *     | 111,111   | *       |
| Trustmark Insurance  | 314,000    | *     | 13,955    | *       |
| UBS AG London Branch   | 82,500,000 | 6.99% | 3,666,666 | *       |
| UBS Securities LLC(5)  | 13,125,000 | 2.28% | 583,333   | *       |
| Victory Capital Management as Agent for Charitable Income Fund       | 225,000    | *     | 10,000    | *       |
| Victory Capital Management as Agent for Field Foundation of Illinois | 95,000     | *     | 4,222     | *       |

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|--|---------|---|--------|---|
| Victory Capital Management as Agent for GenCorp Foundation   | 40,000  | * | 1,777  | * |
| Victory Capital Management as Agent for Key Trust Fixed Income Fund  | 290,000 | * | 12,888 | * |
| Victory Capital Management as Agent for the Charitable Convertible Securities Fund                           | 575,000 | * | 25,555 | * |
| Victory Capital Management as Agent for the Cleveland News Public Local 473                                  | 15,000  | * | 666    | * |
| Victory Capital Management as Agent for the EB Convertible Securities Fund                                   | 885,000 | * | 39,333 | * |
| Victory Capital Management as Agent for the Key Trust Convertible Securities Fund                            | 175,000 | * | 7,777  | * |
| Victory Capital Management as Agent for the Special District of Oregon                                       | 55,000  | * | 2,444  | * |
| Victory Capital Management as Agent for the Victory Convertible Securities Fund                              | 570,000 | * | 25,333 | * |
| Victory Capital Management as Investment Manager for CompSource Oklahoma                                     | 625,000 | * | 27,777 | * |
| Victory Capital Management as Investment Manager for Georgia Municipal Employees Retirement Trust Foundation | 790,000 | * | 35,111 | * |
| Victory Capital Management as Investment Manager for Potlarch  | 515,000 | * | 22,888 | * |
| Victory Capital Management as Investment Manager for Stamford Police Pension Fund                            | 50,000  | * | 2,222  | * |
| Victory Capital Management as Investment Manager for the California State Auto Assoc Inter-Insurance         | 595,000 | * | 26,444 | * |
| Victory Capital Management as Investment Manager for the California State Auto Assoc Retirement Pension Plan | 90,000  | * | 4,000  | * |

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| Victory Capital Management as<br>Investment Manager for the California<br>State Auto Assoc ASNF | 55,000 | * | 2,444 | * |
|---|--------|---|-------|---|

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|--|-----------|---|---------|---|
| Victory Capital Management as<br>Investment Manager for the Health<br>Foundation of Greater Cincinnati | 155,000   | * | 6,888   | * |
| Wachovia Securities LLC(5)   | 300,000   | * | 13,333  | * |
| Xavex Convertible Arbitrage #5   | 550,000   | * | 24,444  | * |
| Xavex-Convertible Arbitrage 7 Fund c/o<br>TQA Investors  | 300,000   | * | 13,333  | * |
| Xavex Risk Arbitrage Fund 2  | 500,000   | * | 22,222  | * |
| Yield Strategies Fund I L.P.   | 3,500,000 | * | 155,555 | * |
| Yield Strategies Fund II L.P.  | 3,500,000 | * | 155,555 | * |
| Zazove Convertible Arbitrage Fund LP   | 1,000,000 | * | 44,444  | * |
| Zurich Institutional Benchmark<br>Fund   | 1,000,000 | * | 44,444  | * |
| Zurich Institutional Benchmark Master<br>Fund  | 400,000   | * | 17,777  | * |
| Zurich Institutional Benchmarks Master<br>Fund, LTD. c/o TOA Investors, LLC                            | 105,000   | * | 4,666   | * |
| 1976 Distribution Trust FBO A.R.<br>Lauder/Zinterhofer   | 8000      | * | 355     | * |
| 2000 Revocable Trust FBO A.R.<br>Lauder/Zinterhofer  | 8,000     | * | 355     | * |

\*

Less than one percent of the Notes or common stock outstanding, as applicable

- (1) Does not include shares of common stock issuable upon conversion of the Notes.
- (2) Consists of shares of common stock issuable upon conversion of the Notes, assuming a conversion price of \$22.50 per share and a cash payment in lieu of any fractional share interest. The conversion price is subject to adjustment as described under "Description of the Notes-Conversion Rate Adjustments."
- (3) Calculated based on Rule 13d-3(d)(i) under the Securities Exchange Act of 1934, as amended, using 379,390,202 shares outstanding on September 30, 2003. In calculating this amount, we treated as outstanding the number of shares of common stock issuable upon conversion of the Notes. However, we did not assume the conversion of any other holder's Notes.
- (4) Certain qualified ERISA plans maintained for the benefit of agents and employees of Allstate Insurance Company own 19,600 shares of the Company's common stock. Allstate Insurance Company disclaims any interest in such shares of common stock, although the investment committees for such plans consist of Allstate Insurance Company officers.
- (5) This holder has provided investment or commercial banking and financial advisory services to us within the past three years for which they have received customary fees.

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QuickLinks

[Prospectus Supplement No. 3 dated April 14, 2004 \(To Prospectus dated August 20, 2003\)](#)