

## SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. )

NAME OF ISSUER: Trimble Navigation LTD.

TITLE OF CLASS OF SECURITIES: Common Stock

CUSIP NUMBER: 896239-100

CUSIP NO. 896239-100

(1) Names of Reporting Persons MELLON BANK CORPORATION  
 SS or IRS Identification Nos. Of Above Person IRS No. 25-1233834

(2) Check the Appropriate Box if a Member of a Group (See Instructions)  
 (a) ( ) (b) ( )

(3) SEC Use Only

(4) Citizenship or Place of Organization United States

|   |     |                          |           |
|---|-----|--------------------------|-----------|
| Number of Shares Beneficially Owned by Each Reporting Person With | (5) | Sole Voting Power        | 1,261,695 |
|   | (6) | Shared Voting Power      | 0         |
|   | (7) | Sole Dispositive Power   | 1,339,700 |
|   | (8) | Shared Dispositive Power | 12,800    |

(9) Aggregate Amount Beneficially Owned by Each Reporting Person  
 1,357,623

(10) Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) ( )

(11) Percent of Class Represented by Amount in Row (9) 6.01

(12) Type of Reporting Person (See Instructions) HC

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(Under the Securities and Exchange Act of 1934)

Item 1(a) Name of Issuer: Trimble Navigation LTD.

Item 1(b) Address of Issuer's Principal Executive Offices:  
 645 N. MARY AVE., SUNNYVALE, CA 94088

Item 2(a) Name of Person Filing: Mellon Bank Corporation and any other reporting person(s) identified on the second part of the cover page(s).

Item 2(b) Address of Principal Business Office, or if None, Residence:  
 c/o Mellon Bank Corporation  
 One Mellon Bank Center  
 Pittsburgh, Pennsylvania 15258  
 (for all reporting persons)

Item 2(c) Citizenship: United States

Item 2(d) Title of Class of Securities: Common Stock

Item 2(e) CUSIP Number: 896239-100

Item 3 See Item 12 of cover page(s) ("Type of Reporting Person") for each reporting person.

BK = Bank as defined in Section 3(a)(6) of the Act

IV = Investment Company registered under Section 8 of the Investment Company Act

IA = Investment Adviser registered under Section 203 of the Investment Advisers Act of 1940

EP = Employee Benefit Plan, Pension Fund which is subject to the provisions of the Employee Retirement Income Security Act of 1974 or Endowment Fund; see Section 240.13-d(1)(b)(1)(ii)(F)

HC = Parent Holding Company, in accordance with Section 240.13-d(1)(b)(1)(ii)(G)

Item 4 Ownership: See Items 5 through 9 and 11 of cover page(s) as to each reporting person.

The amount beneficially owned includes, where appropriate, securities not outstanding which are subject to options, warrants, rights or conversion privileges that are exercisable within 60 days. The filing of this Schedule 13G shall not be construed as an admission that Mellon Bank Corporation, or its direct or indirect subsidiaries, including Mellon Bank, N.A., are for the purposes of Section 13(d) or 13(g) of the Act, the beneficial owners of any securities covered by this Schedule 13G.

The following information applies if checked: ( ) Mellon Bank, N.A. is the trustee of the issuer's employee benefit plan (the "Plan"), which is subject to ERISA. The securities reported include all shares held of record by Mellon Bank, N.A. as trustee of the Plan which have not been allocated to the individual accounts of employee participants in the Plan. The reporting person, however, disclaims beneficial ownership of all shares that have been allocated to the individual accounts of employee participants in the Plan for which directions have been received and followed.

Item 5 Ownership of Five Percent or Less of a Class: If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following ( )

Item 6 Ownership of More than Five Percent on Behalf of Another Person: All of the securities are beneficially owned by Mellon Bank Corporation and direct or indirect subsidiaries in their various fiduciary capacities. As a result, another entity in every instance is entitled to dividends or proceeds of sale. The number of individual accounts holding an interest of 5% or more is ( 0 ).

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Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported by the Parent Holding Company: See Exhibit I.

Item 8 Identification and Classification of Members of the Group: N/A

Item 9 Notice of Dissolution of Group: N/A

Item 10 Certification: By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired in the ordinary course of business and were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purposes or effect.

## SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct. This filing is signed by Mellon Bank Corporation on behalf of all reporting entities pursuant to Rule 13d-1(f)(1) promulgated under the Securities and Exchange Act of 1934, as amended.

Date: January 23, 1998

MELLON BANK CORPORATION

By: WILLIAM L. DAWSON, JR.

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 William L. Dawson, Jr.  
 Senior Vice President,  
 Mellon Bank, N.A.  
 Attorney-In-Fact for  
 Mellon Bank Corporation

## EXHIBIT I

The shares reported on the attached Schedule 13G are beneficially owned by the following direct or indirect subsidiaries of Mellon Bank Corporation, as marked (X):

(A) The Item 3 classification of each of the subsidiaries listed below is "Item 3(b) Bank as defined in Section 3(a)(6) of the Act."

- ( X ) Boston Safe Deposit and Trust Company
- ( ) Mellon Trust of California
- ( ) Mellon Trust of New York
- ( X ) Mellon Bank, N.A. (also parent holding company of the Dreyfus Corporation and Mellon Equity Associates)
- ( ) Mellon Bank (Delaware) National Association
- ( ) Mellon Bank (MD)
- ( ) Mellon Trust Florida
- ( ) Mellon, F.S.B.

(B) The Item 3 classification of each of the subsidiaries listed below is "Item 3(e) Investment Advisor registered under Section 203 of the Investment Advisers Act of 1940."

- ( ) Franklin Portfolio Associates Trust
- ( ) Laurel Capital Advisors
- ( X ) Mellon Capital Management Corporation
- ( ) Mellon Equity Associates
- ( ) Boston Safe Advisors
- ( X ) The Boston Company Asset Management, Inc.
- ( X ) The Dreyfus Corporation (also parent holding company of Dreyfus Investment Advisors, Inc.)
- ( ) Dreyfus Investment Advisors, Inc.

(C) The Item 3 classification of each of the legal entities listed below is "Item 3(g) Parent Holdings Company, in accordance with Section 240.13d-I(b)(ii)(G).

- ( X ) Mellon Bank Corporation
- ( X ) Boston Group Holdings, Inc. (parent holding company of The Boston Company, Inc.)
- ( X ) The Boston Company, Inc. (parent holding company of Boston Safe Advisors, Inc., The Boston Company Asset Management, Inc., Boston Safe Deposit and Trust Company, Mellon Trust of California, Mellon Trust of New York and Mellon Trust Florida)
- ( X ) MBC Investment Corporation (parent holding company of Laurel Capital Advisors, Franklin Portfolio Associates, Mellon Bank, F.S.B. and Mellon Capital Management Corporation)
- ( ) Mellon Financial Corporation (MD) (parent holding company of

Mellon Bank (MD)

NOTE: All of the legal entities listed under (A) and (B) above are direct or indirect subsidiaries of Mellon Bank Corporation. Beneficial ownership of more than five percent of the class by any one of the subsidiaries or intermediate parent holding companies listed above is reported on a joint reporting person page for that subsidiary on the attached Schedule 13G and is incorporated in the total percent of class reported on Mellon Bank Corporation's reporting person page. (Do not add the shares or percent of class reported on each joint reporting person page on the attached Schedule 13G to determine the total percent of class for Mellon Bank Corporation.)