

*W. Bollen*

**The Companies Act 1985**

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**PRIVATE COMPANY LIMITED BY SHARES**

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**ARTICLES OF ASSOCIATION**

**of**

**TECHNICAL SIMULATION CONSULTANTS LIMITED**

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**(Adopted by  
Special Resolution passed 10.9.1996)**

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**1 Preliminary**

The regulations contained in Table A in the Schedule to the Companies (Tables A to F) Regulations 1985 in force at the time of adoption of these Articles shall apply to the Company save in so far as they are excluded or varied by these Articles and such regulations (save as so excluded or varied) and these Articles shall be the regulations of the Company.

**2 Interpretation**

In these Articles and in Table A the following expressions have the following meanings unless inconsistent with the context:-

“the Act”

the Companies Act 1985 including any statutory modification or re-enactment thereof for the time being in force.

“these Articles”

these Articles of Association, whether as originally adopted or as from time to time altered by special resolution.



“clear days”	in relation to the period of a notice means that period excluding the day when the notice is given or deemed to be given and the day for which it is given or on which it is to take effect.
“the directors”	the directors for the time being of the Company or (as the context shall require) any of them acting as the board of directors of the Company
“executed”	includes any mode of execution.
“the holder”	in relation to shares means the member whose name is entered in the register of members as the holder of the shares.
“office”	the registered office of the Company.
“seal”	the common seal of the Company (if any).
“secretary”	the secretary of the Company or any other person appointed to perform the duties of the secretary of the Company, including a joint, assistant or deputy secretary.
“share”	includes any interest in a share.
“the United Kingdom”	Great Britain and Northern Ireland.

Unless the context otherwise requires, words or expressions contained in these Articles and in Table A bear the same meaning as in the Act but excluding any statutory modification thereof not in force when these Articles become binding on the Company. Regulation 1 of Table A shall not apply to the Company.

### 3 **Share capital**

- 3.1 The authorised share capital of the Company at the time of adoption of these Articles is £134,000 divided into 133,000 non-cumulative redeemable preference shares of £1.00 each (in these Articles referred to as the “preference shares”) and 1,000 ordinary shares of £1.00 each.
- 3.2 Save as may be provided by regulation 110 of Table A and subject to any contrary direction given by the Company in general meeting by special resolution all shares which are comprised in the authorised share capital of the Company from time to time which the directors propose to issue shall first be offered, at par

or at a premium and upon such other terms and conditions as the directors may determine, to the members who are holders of the same class of shares as those to be issued at the time of the offer in proportion to the number of the existing shares of that class held by them respectively and at the same price. Each such offer shall be made by notice specifying the total number and class of shares being offered to the members holding shares of that class as a whole, the proportionate entitlement of the member to whom the offer is made and the price per share and shall require each member to state in writing within a period (not being less than fourteen days) specified in the notice whether he is willing to take any and, if so, what maximum number of the said shares up to his proportionate entitlement. An offer, if not accepted within the period specified as regards any shares, will be deemed to be declined as regards those shares. After the expiration of such period, those shares so deemed to be declined shall be offered in proportion as aforesaid to the persons holding shares of the same class who have, within the said period, accepted all the shares offered to them; such further offer shall be made in like terms in the same manner and limited by a like period as the original offer. Any shares not accepted pursuant to such offer or further offer as aforesaid or not capable of being offered as aforesaid except by way of fractions shall not be issued. Any shares released from the provisions of this Article by any such special resolution as aforesaid shall be under the control of the directors, who may allot, grant options over or otherwise dispose of the same to such persons, on such terms, and in such manner as they think fit. No share shall be issued at a discount or otherwise in breach of the provisions of these Articles or of the Act.

- 3.3 Subject to any special rights conferred upon the holders of any shares or class of shares, any share in the Company may be issued with or have attached thereto such preferred, deferred or other special rights or such restrictions, whether in regard to dividend, voting, return of capital or otherwise as the Company may by special resolution determine.
- 3.4 Subject to the Act, any preference shares may be issued on the terms that they are, or at the option of the Company are to be liable, to be redeemed on such terms and in such manner as the Company may by special resolution determine.
- 3.5 Regulation 4 of Table A and, in accordance with section 91(1) of the Act, sections 89(1) and 90(1) to (6) (inclusive) of the Act shall not apply to the Company.

#### **4 Rights of preference shares**

The rights attaching to the preference shares are as follows:-

##### **4.1 As regards income:-**

The holders of the preference shares shall be entitled to a fixed non-cumulative preferential net cash dividend at the rate of 6% per annum on the capital for the time being paid up thereon ("the fixed dividend") but shall not be entitled to any further or other right of participation in the profits of the Company.

The fixed dividend shall be payable in yearly instalments on the 1st November in each year accruing from the date of subscription and first payable on 1st November 1997 ("the Preference Dividend").

**4.2 As regards capital:-**

On a return of capital on liquidation or otherwise the assets of the Company available for distribution among the members shall be applied first in repaying to the holders of the preference shares the amounts paid up on such shares together with a sum equal to any arrears or accruals of the fixed dividend thereon, to be calculated down to the date of the return of capital, but the preference shares shall not entitle the holders thereof to any further or other right of participation in the assets of the Company.

**4.3 As regards issue of further preference shares:-**

The Company shall not be entitled to issue any further shares ranking as regards participation in the profits and assets of the Company either in priority to or pari passu with the preference shares save with the consent or sanction of the holders of the preference shares given in accordance with the provisions of Article 5.

**4.4 As regards redemption:-**

4.4.1 Such number of preference shares as are necessary to enable TQC Limited to repay its loan of £20,000 together with interest to the TQC self administered pension scheme ("The Pension Scheme") shall be redeemed at £1.00 per share together with all arrears of dividend upon such date as TQC Limited and the Company may agree and in any event upon the date The Pension Scheme loans are due for repayment.

4.4.2 The balance of the preference shares shall be redeemed in nine equal instalments per year commencing 30 December 2001 and shall be redeemed at £1.00 per share together with all arrears of dividend.

4.4.3 If any tranche of the preference shares has not been redeemed by the anniversary of the date of the subscription in the year in which it falls to be redeemed it will with effect from that date carry a cumulative fixed dividend of 10% in lieu of the non-cumulative 6% dividend referred to in clause 4.1.

- 4.4.4 Any preference share may be redeemed before the due date at the election of the Company.
- 4.5 The Company may redeem the preference shares upon giving to the holders of the particular shares to be redeemed not less than one month's previous notice in writing. In the case of any partial redemption, the Company shall redeem (so far as practicable) that number of preference shares registered in the name of each holder of preference shares on the date on which the notice to redeem is given which bears the same proportion to the total number of preference shares so registered in the name of that holder on that date as the total number of preference shares then to be redeemed bears to the total number of preference shares in issue on that date.
- 4.6 Any notice of redemption shall specify the particular shares to be redeemed, the date fixed for redemption and the place at which the certificates for such shares are to be presented for redemption and upon such date each of the holders of the shares concerned shall be bound to deliver to the Company at such place the certificates for such of the shares concerned as are held by him in order that the same may be cancelled. Upon such delivery the Company shall pay to such holder (or, in the case of joint holders, to the holder whose name stands first in the register in respect of such shares) the amount then due to him in respect of such redemption.
- 4.7 As from the date fixed for redemption of any preference share the fixed dividend thereon shall cease to accrue unless, upon the presentation of the certificate relating thereto by TQC Limited and a receipt for the redemption moneys then due duly signed and authenticated in such manner as the board of directors of the Company may reasonably require, payment of the redemption moneys by the Company is refused.
- 4.8 **As regards voting:-**
- Save as set out in clause 5 the preference shares shall not entitle the holders thereof to receive notice of or to attend or vote at any general meeting of the Company.

## **5 Modification of class rights**

Subject to the Act, all or any of the special rights for the time being attached to the preference shares for the time being issued may from time to time (whether or not the Company is being wound up) be altered or abrogated only with the consent in writing of the holders of not less than three-fourths of the issued shares of that class or with the sanction of an extraordinary resolution passed at a separate general meeting of the holders of such shares. To any such separate general meeting all the provisions of the regulations of the Company as to general meetings of the Company shall mutatis mutandis apply, but so that the necessary quorum shall be two persons (or if only one member holds

preference shares one person shall constitute a quorum) at least holding or representing by proxy not less than one-third of the issued shares of the class. If such separate meeting shall be adjourned owing to the absence of a quorum and if at the adjourned meeting a quorum shall not be present within half-an-hour from the time appointed for such adjourned meeting the holder or holders of shares of the class concerned who are present in person or by proxy shall constitute a quorum. Every holder of shares of the class shall be entitled on a poll to one vote for every such share held by him and any holder of shares of the class present in person or by proxy may demand a poll. Without prejudice to the generality of this clause the special rights attached to the preference shares shall be deemed to be varied:-

- 5.1 by the direct or consequential change to class rights;
- 5.2 by the disposal of the whole or a substantial part of the Company's business or the disposal of a controlling interest in any subsidiary;
- 5.3 by the acquisition by the Company or any subsidiary of a controlling interest in any other Company;
- 5.4 by the increase in directors' emoluments above £80,000 (index linked) excluding any bonuses provided that the preference dividend is paid in full and the preference shares redeemed in accordance with clause 4.4;
- 5.5 by the change to the borrowing guaranteeing or charging powers of the Company or its subsidiaries;
- 5.6 by the voluntary winding up of the Company;
- 5.7 by the purchase or redemption by the Company of any of its own shares (other than the preference shares);
- 5.8 by the payment of dividends on ordinary shares unless the preference dividend has been paid and preference shares redeemed in accordance with clause 4.4.

For the purpose of clause 5.2 and 5.3 the expression "controlling interest" shall mean the ability to exercise or control the exercise of in the aggregate more than 50% of the total voting rights (within the meaning of section 736A(2) of the Act) capable of being exercised at general meetings of such member.

## 6 **Lien**

The Company shall have a first and paramount lien on all shares, whether fully paid or not, standing registered in the name of any person indebted or under liability to the Company, whether he shall be the sole registered holder thereof or shall be one of two or more joint holders, for all moneys presently payable by him or his estate to the

Company whether or not in respect of the shares in question. Regulation 8 of Table A shall be modified accordingly.

**7      Calls on shares and forfeiture**

There shall be added at the end of the first sentence of regulation 18 of Table A, so as to increase the liability of any member in default in respect of a call, the words “and all expenses that may have been incurred by the Company by reason of such non-payment”.

**8      Transfer of shares**

8.1      In relation to the ordinary shares the directors may refuse to register a transfer of a share to a person to whom they do not approve.

8.2      In relation to transfers of preference shares:-

8.2.1      transfers of the preference shares may be made without restriction within the TQC group of companies. If a company to whom shares are transferred ceases to be a member of the TQC group that company shall transfer its shares to TQC Limited or another company within the TQC group of companies and if it fails to do so within the period of 60 days of written notice from the Company the Company shall be entitled to redeem all outstanding preference shares for £1.00 in aggregate.

8.2.2      in the event of TQC Limited's liquidation voluntary arrangement composition with creditors or an administrator or administrative receiver being appointed TQC Limited shall, with the consent of the Company (such consent not to be unreasonably withheld or delayed), be able to transfer preference shares outside the TQC group.

**9      General meetings**

The directors may call general meetings and regulation 37 of Table A shall not apply to the Company.

**10     Notice of general meetings**

10.1      A notice convening a general meeting shall be required to specify the general nature of the business to be transacted only in the case of special business and regulation 38 of Table A shall be modified accordingly. The words “or a resolution appointing a person as a director” and paragraphs (a) and (b) in regulation 38 of Table A shall be deleted and the words “in accordance with section 369(3) of the Act” shall be inserted after the words “if it is so agreed” in that regulation.

- 10.2 All business shall be deemed special that is transacted at an extraordinary general meeting, and also all that is transacted at an annual general meeting, with the exception of declaring a dividend, the consideration of the profit and loss account, balance sheet, and the reports of the directors and auditors, the appointment of and the fixing of the remuneration of the auditors and the giving or renewal of any authority in accordance with the provisions of section 80 of the Act.
- 10.3 Every notice convening a general meeting shall comply with the provisions of section 372(3) of the Act as to giving information to members in regard to their right to appoint proxies; and notices of and other communications relating to any general meeting which any member is entitled to receive shall be sent to the directors and to the auditors for the time being of the Company.

11 **Proceedings at general meetings**

- 11.1 The words “save that, if and for so long as the Company has only one person as a member, one member present in person or by proxy shall be a quorum” shall be added at the end of the second sentence of regulation 40 of Table A.
- 11.2 If a quorum is not present within half an hour from the time appointed for a general meeting the general meeting shall stand adjourned to the same day in the next week at the same time and place or to such other day and at such other time and place as the directors may determine; and if at the adjourned general meeting a quorum is not present within half an hour from the time appointed therefor the members present in person or by proxy or (being a body corporate) by representative being not less than two persons entitled to vote upon the business to be transacted shall constitute a quorum and in any other case such adjourned general meeting shall be dissolved. Regulation 41 of Table A shall not apply to the Company.

12 **Votes of members**

- 12.1 Regulation 54 of Table A shall not apply to the Company. Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member entitled to vote who (being an individual) is present in person or by proxy (not being himself a member entitled to vote) or (being a corporate body) is present by a representative or proxy (not being himself a member entitled to vote) shall have one vote and, on a poll, every member shall have one vote for each share of which he is the holder.
- 12.2 The words “be entitled to” shall be inserted between the words “shall” and “vote” in regulation 57 of Table A.
- 12.3 A member shall not be entitled to appoint more than one proxy to attend on the same occasion and accordingly the final sentence of regulation 59 of Table A



shall not apply to the Company. Any such proxy shall be entitled to cast the votes to which he is entitled in different ways.

13 **Alternate directors**

13.1 An alternate director shall be entitled to receive notice of all meetings of the directors and of all meetings of committees of the directors of which his appointor is a member (subject to his giving to the Company an address within the United Kingdom at which notices may be served on him), to attend and vote at any such meeting at which the director appointing him is not personally present and generally to perform all the functions of his appointor at such meeting as a director in his absence. An alternate director shall not be entitled to receive any remuneration from the Company, save that he may be paid by the Company such part (if any) of the remuneration otherwise payable to his appointor as such appointor may by notice in writing to the Company from time to time direct. Regulation 66 of Table A shall not apply to the Company.

13.2 A director, or any such other person as is mentioned in regulation 65 of Table A, may act as an alternate director to represent more than one director, and an alternate director shall be entitled at any meeting of the directors or of any committee of the directors to one vote for every director whom he represents in addition to his own vote (if any) as a director, but he shall count as only one for the purpose of determining whether a quorum is present and the final sentence of regulation 88 shall not apply to the Company.

13.3 Save as otherwise provided in the regulations of the Company, an alternate director shall be deemed for the purposes specified in Article 13.1 to be a director and shall alone be responsible for his own acts and defaults and he shall not be deemed to be the agent of the director appointing him. Regulation 69 of Table A shall not apply to the Company.

14 **Appointment and retirement of directors**

14.1 The directors shall not be required to retire by rotation and regulations 73 to 80 (inclusive) of Table A shall not apply to the Company.

14.2 The Company may by ordinary resolution appoint any person who is willing to act to be a director, either to fill a vacancy or as an additional director.

14.3 The directors may appoint a person who is willing to act to be a director, either to fill a vacancy or as an additional director, provided that the appointment does not cause the number of directors to exceed any number determined in accordance with regulation 64 of Table A as the maximum number of directors for the time being in force.

15 **Disqualification and removal of directors**

The office of a director shall be vacated if:-

- 15.1 he ceases to be a director by virtue of any provision of the Act or these Articles or he becomes prohibited by law from being a director; or
- 15.2 he becomes bankrupt or makes any arrangement or composition with his creditors generally; or
- 15.3 he is, or may be, suffering from mental disorder and either:-
  - 15.3.1 he is admitted to hospital in pursuance of an application for admission for treatment under the Mental Health Act 1983 or, in Scotland, an application for admission under the Mental Health (Scotland) Act 1960, or
  - 15.3.2 an order is made by a court having jurisdiction (whether in the United Kingdom or elsewhere) in matters concerning mental disorder for his detention or for the appointment of a receiver, curator bonis or other person to exercise powers with respect to his property or affairs; or
- 15.4 he resigns his office by notice to the Company; or
- 15.5 he shall for more than six consecutive months have been absent without permission of the directors from meetings of directors held during that period and the directors resolve that his office be vacated;

and regulation 81 of Table A shall not apply to the Company.

16 **Gratuities and pensions**

Regulation 87 of Table A shall not apply to the Company and the directors may exercise any powers of the Company conferred by its Memorandum of Association to give and provide pensions, annuities, gratuities or any other benefits whatsoever to or for past or present directors or employees (or their dependants) of the Company or any subsidiary or associated undertaking (as defined in section 27(3) of the Companies Act 1989) of the Company and the directors shall be entitled to retain any benefits received by them or any of them by reason of the exercise of any such powers.

17 **Proceedings of the directors**

- 17.1 Subject to the provisions of the Act, and provided that he has disclosed to the directors the nature and extent of any interest of his, a director notwithstanding his office:-

- 17.1.1 may be a party to or otherwise interested in any transaction or arrangement with the Company or in which the Company is in any way interested;
  - 17.1.2 may be a director or other officer of or employed by or be a party to any transaction or arrangement with or otherwise interested in any body corporate promoted by the Company or in which the Company is in any way interested;
  - 17.1.3 may or any firm or company of which he is a member or director may act in a professional capacity for the Company or any body corporate in which the Company is in any way interested;
  - 17.1.4 shall not by reason of his office be accountable to the Company for any benefit which he derives from such office, service or employment or from any such transaction or arrangement or from any interest in any such body corporate and no such transaction or arrangement shall be liable to be avoided on the ground of any such interest or benefit; and
  - 17.1.5 shall be entitled to vote on any resolution and (whether or not he shall vote) be counted in the quorum on any matter referred to in any of Articles 17.1.1 to 17.1.4 (inclusive) or on any resolution which in any way concerns or relates to a matter in which he has, directly or indirectly, any kind of interest whatsoever and if he shall vote on any resolution as aforesaid his vote shall be counted.
- 17.2 For the purposes of Article 17.1:-
- 17.2.1 a general notice to the directors that a director is to be regarded as having an interest of the nature and extent specified in the notice in any transaction or arrangement in which a specified person or class of persons is interested shall be deemed to be a disclosure that the director has an interest in any such transaction of the nature and extent so specified;
  - 17.2.2 an interest of which a director has no knowledge and of which it is unreasonable to expect him to have knowledge shall not be treated as an interest of his; and
  - 17.2.3 an interest of a person who is for any purpose of the Act (excluding any statutory modification not in force when these Articles were adopted) connected with a director shall be treated as an interest of the director and in relation to an alternate director an interest of his appointor shall be treated as an interest of the alternate director

without prejudice to any interest which the alternate director has otherwise.

17.3 Any director including an alternate director may participate in a meeting of the directors or a committee of the directors of which he is a member by means of a conference telephone or similar communications equipment whereby all persons participating in the meeting can hear each other and participation in a meeting in this manner shall be deemed to constitute presence in person at such meeting and, subject to these Articles and the Act, he shall be entitled to vote and be counted in a quorum accordingly. Such a meeting shall be deemed to take place where the largest group of those participating is assembled or, if there is no such group, where the chairman of the meeting then is.

17.4 Regulation 88 of Table A shall be amended by substituting for the sentence:-"It shall not be necessary to give notice of a meeting to a director who is absent from the United Kingdom"

the following sentence:-

"Notice of every meeting of the directors shall be given to each director and his alternate director, including directors and alternate directors who may for the time being be absent from the United Kingdom and have given the Company an address within the United Kingdom for service."

17.5 Regulations 94 to 97 (inclusive) of Table A shall not apply to the Company.

## 18 **The seal**

If the Company has a seal it shall be used only with the authority of the directors or of a committee of the directors. The directors may determine who shall sign any instrument to which the seal is affixed and unless otherwise so determined, every instrument to which the seal is affixed shall be signed by one director and by the secretary or another director. The obligation under regulation 6 of Table A relating to the sealing of share certificates shall only apply if the Company has a seal. Regulation 101 of Table A shall not apply to the Company.

## 19 **Notices**

19.1 In regulation 112 of Table A, the words "by telex to a telex number supplied by the member for such purpose or" shall be inserted immediately after the words "or by sending it" and the words "first class" shall be inserted immediately before the words "post in a prepaid envelope".

19.2 Where a notice is sent by first class post, proof of the notice having been posted in a properly addressed, prepaid envelope shall be conclusive evidence that the notice was given and shall be deemed to have been given at the expiration of 24

hours after the envelope containing the same is posted. Where a notice is sent by telex receipt of the appropriate answerback shall be conclusive evidence that the notice was given and the notice shall be deemed to have been given at the time of transmission following receipt of the appropriate answerback. Regulation 115 of Table A shall not apply to the Company.

- 19.3 If at any time by reason of the suspension or curtailment of postal services within the United Kingdom the Company is unable effectively to convene a general meeting by notices sent through the post, a general meeting may be convened by a notice advertised in at least one national daily newspaper and such notice shall be deemed to have been duly served on all members entitled thereto at noon on the day when the advertisement appears. In any such case the Company shall send confirmatory copies of the notice by post if at least seven days prior to the meeting the posting of notices to addresses throughout the United Kingdom again becomes practicable.

20 **Winding up**

In regulation 117 of Table A, the words "with the like sanction" shall be inserted immediately before the words "determine how the division".

21 **Indemnity**

- 21.1 Subject to the provisions of section 310 of the Act every director (including an alternate director) or other officer of the Company shall be indemnified out of the assets of the Company against all losses or liabilities which he may sustain or incur in or about the lawful execution of the duties of his office or otherwise in relation thereto, including any liability incurred by him in defending any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in connection with any application under section 144 or section 727 of the Act in which relief is granted to him by the court, and no director (including an alternate director) or other officer shall be liable for any loss, damage or misfortune which may happen to or be incurred by the Company in the lawful execution of the duties of his office or in relation thereto. Regulation 118 of Table A shall not apply to the Company.
- 21.2 The directors shall have power to purchase and maintain for any director, (including an alternate director) officer or auditor of the Company insurance against any such liability as is referred to in section 310 (1) of the Act and, subject to the provisions of the Act, against any other liability which may attach to him or loss or expenditure which he may incur in relation to anything done or alleged to have been done or omitted to be done as a director, (including as an alternate director) officer or auditor.
- 21.3 The directors may authorise the directors of companies within the same group of companies as the Company to purchase and maintain insurance at the expense of

the Company for the benefit of any director (including an alternate director), other officer or auditor of such company in respect of such liability, loss or expenditure as is referred to in Article 21.2.

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Names, addresses and descriptions of Subscribers

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Dated:

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