

# TERATECHNOLOGIES INC.

## BY-LAW NO. 3

### GENERAL BY-LAWS

#### INTERPRETATION

1. Definitions. The definitions set out in the *Companies Act* (R.S.Q., c. C-38), and in any amendment or successor act thereto (collectively, the "Act"), shall apply to the terms used in these General By-Laws.
2. Computation of Time. The computation of time or any period in days shall be based on the provisions of the *Interpretation Act* (R.S.Q., c. 1-16), and any amendment or successor act thereto.
3. Signature. Any signature required on a notice of shareholder meeting or any other document that must be sent or provided by the Company, its directors or its officers or on their behalf may be handwritten or reproduced mechanically or electronically.
4. Certificate. A transfer certificate made by the Secretary or by any other duly authorized officer of the Company in office when the certificate was prepared, or by any officer, transfer agent or registrar who records the transfer of shares of the Company shall be conclusive evidence, enforceable against any shareholder, of the sending or delivery of any notice of meeting or any other document that must be sent or provided by the Company, its directors or its officers, or on their behalf.

#### SHAREHOLDERS

5. Annual Meeting. The annual meeting of shareholders of the Company shall be held each year on such date and at such time as may be fixed by the Board of Directors, to receive and consider the financial statements with the report of the Auditor, to elect directors, to appoint an Auditor and to fix or to authorize the Board of Directors to fix his remuneration, and to consider, deal with and dispose of such other business as may lawfully come before the meeting.

The annual meeting of shareholders shall be held at the head office of the Company or at any other place in the province of Quebec, which may be determined by the Board of Directors.

Any annual meeting may also constitute a special meeting to consider, deal with and dispose of any business to be considered, dealt with and disposed of at any special meeting.

6. Special Meeting. A special meeting of shareholders, whether or not it constitutes a general meeting, may be called at any time as determined by the President, the President of the Board or the Board of Directors. A special meeting, whether or not it constitutes a general meeting, may be held separately or as part of an annual meeting or, as the case may be, of a special general meeting.

Special meetings of shareholders shall be held at the head office of the Company or at such other place, within or outside Quebec, as may be determined by the Board of Directors. However, if directors are to be elected at a special meeting of shareholders, such meeting shall be held within the province of Quebec.

7. Special General Meeting Called at the Request of Shareholders. It shall be incumbent upon the Board of Directors to call a special general meeting of shareholders whenever required in writing to do so by the shareholders holding no less than one-tenth of the issued shares of the Company of the class or classes that, at the date of the request, carry the right to vote at the meeting so requested. The request shall indicate the purposes of the upcoming meeting, the business of which shall lie within the competence of a general meeting of the shareholders. If the meeting is not called and held within 21 days from the date upon which the request for the meeting was deposited at the head office of the Company to the attention of the Secretary, every shareholder, whether or not it signed the request, holding not less than one-tenth of the issued shares of the Company carrying the right to vote at the meeting requested may itself convene such special general meeting.

8. Notice of Meetings. Notice of each annual or special meeting of shareholders shall be sent to the shareholders entitled to attend such meeting by any means of delivery authorized by law, at the discretion of the person charged with giving such notice, to the respective address of the recipients recorded in the registers of the Company, at least 21 days prior to the date fixed for such meeting. If the address of any shareholder does not appear in the registers of the Company, then the said notice may be sent to such address as the person sending the notice may consider to be the most likely address at which the notice will reach such shareholder promptly. Irregularities in the notice or in the sending thereof, including the accidental omission to give notice or the non-receipt thereof by any of the shareholders, shall not invalidate any proceedings at any such meeting.

No notice of the date determined for any adjourned meeting need be given.

9. Record Date. The Board of Directors may fix a date no earlier than 30 days prior to the notice or holding of a meeting as the record date to determine which shareholders are entitled to receive notice of or to vote at a meeting. As a result, only shareholders of record on the date so fixed shall be entitled to receive notice thereof and to vote thereat, regardless of any transfer of shares recorded in the registers of the Company between the record date and the notice or holding of such meeting.

10. Joint Shareholders. In the case of joint shareholders, any notice of meeting or other document that must be sent to shareholders may be sent to the joint shareholder whose name first appears in the registers of the Company in respect of such shares. Any notice or document so sent shall be deemed sufficient to release the sender from sending such notice or document to each joint shareholder.

11. Chairman of the Meeting. The Chairman of the Board of Directors or, if there is none, the President of the Company, or any other person as may from time to time be appointed as such by the Board of Directors, shall preside at meetings of shareholders.

12. Quorum. One or more persons present in person or duly represented and holding not less than 10% of the aggregate number of votes attached to all the voting shares for such meeting shall constitute a quorum at an annual, special or special general meeting of shareholders, regardless of the actual number of persons physically present.

Should a quorum exist at the commencement of a meeting, the shareholders present or represented may proceed with the business for which it was originally called whether or not the quorum is maintained for the duration of the meeting.

Should no quorum exist at the commencement of a meeting, the shareholders present or represented may, by a majority vote to that effect, adjourn the meeting to another date and place, though they may not proceed with any other business.

Should a quorum exist at a meeting so adjourned, said meeting may proceed, failing which, a new meeting shall be convened.

13. Proxy. The Board of Directors may set a date and time limit when instruments of proxy to be used at a meeting must be deposited with the Company or its mandatary; such date and time limit shall not precede the meeting by more than 48 hours.

The Board of Directors may also permit details of proxies to be used at or in connection with a meeting and deposited with the Company or its mandatary at a location other than that at which such meeting shall be held to be sent by facsimile to the Secretary of the Company prior to the meeting. In such a case,

such proxies, if they are otherwise regular, shall be valid and the votes given under their authority shall be counted.

14. Decisions Made by the Majority. Unless otherwise provided in the Act, any matters submitted to a meeting of shareholders will be decided by a simple majority (50% + 1) of the votes validly cast. In the case of joint shareholders, unless they should indicate otherwise, any one of such persons attending the meeting shall be authorized to cast those votes which may be cast at the meeting and, where more than one joint shareholder is in attendance, only the person whose name first appears in the securities register of the Company in respect of the shares carrying votes shall be authorized to cast such vote at the meeting.

15. Vote by a Show of Hands. Unless a voice vote or a vote by secret ballot is requested in the manner prescribed below, the vote shall be taken by a show of hands. In such a case, the shareholders shall vote by raising their hands, and the number of votes shall be calculated in accordance with the number of raised hands.

16. Voice Vote. If the chairman of the meeting so orders or if another person holding or representing by proxy no fewer than 10% of the shares carrying votes which may be cast at the meeting so requests (which request may be withdrawn), and if a vote by secret ballot is not requested, a voice vote shall be taken. In such a case, each shareholder or proxy shall verbally declare his name and that of each shareholder for whom he holds a proxy, the number of votes he has and the manner in which he shall cast such votes. The number of votes so casts shall determine whether or not a resolution is carried.

17. Secret Ballot. If the chairman of the meeting so orders or a person holding or representing by proxy no fewer than 10% of the shares carrying votes which may be cast at the meeting so requests, the vote shall be taken by secret ballot. A request for a vote by secret ballot may be made at any time prior to the adjournment of the meeting, even after the holding of a vote by a show of hands or a voice vote, and such a request may also be withdrawn. Each shareholder or proxy shall remit to the scrutineers one or more ballots, on which he shall enter the manner in which he shall cast the votes he has and, where applicable, his name and the number of votes he has. Whether or not a vote by a show of hands or a voice vote has previously been taken on the same matter, the result of a secret ballot shall be deemed to represent the resolution of the meeting in respect thereof.

18. Procedure at Meetings. The chairman of any meeting of shareholders shall be responsible for conducting the procedure thereat in all respects, and his decision on any matter, even a matter pertaining to the validity or non-validity of a proxy and the receivability or non-receivability of a motion, shall be final and binding on all the shareholders.

A declaration by the chairman of the meeting that a resolution has been carried or not carried, with or without qualification of unanimity, by a particular majority, shall be conclusive evidence of the fact.

At all times during the meeting, the chairman of the meeting, of his own initiative or with the assent of the shareholders given by a simple majority, for a valid reason, such as a disturbance or confusion rendering the harmonious and orderly conduct of the meeting impossible, has the authority to adjourn the meeting from time to time and no notice of any such adjourned meeting to a given date need be given.

Should the chairman of the meeting fail to carry out his duties loyally, the shareholders may remove him as chairman of such meeting at any time and replace him by another person chosen from among their number.

19. Scrutineers. The chairman at any meeting of shareholders may appoint scrutineers (who may but need not be directors, officers, employees or shareholders of the Company), who shall act in accordance with his directives.

### **BOARD OF DIRECTORS**

20. Number. The Company shall be managed by a Board of Directors composed of the fixed number of directors indicated in its articles of incorporation. If the articles of incorporation establish a minimum and a maximum number of directors, the Board of Directors shall be composed of the fixed number of directors, although no less than three, established by resolution of the Board of Directors or, failing this, selected by the shareholders within such limits.

21. Resignation. A director may resign his office by written notice to the Company. Reasons need not be given for a resignation. Unless a subsequent date is stipulated in such notice, the resignation shall take effect on the date of its delivery.

22. Removal. Unless otherwise provided in the articles of incorporation of the Company, the shareholders may, by resolution, remove a director at a special general meeting called for that purpose.

The removal of a director, as well as his election, shall be at the discretion of the shareholders. A director may be removed at any time and such removal need not be based on any particular grounds, whether serious or not. Neither the Company nor the shareholders voting in favour of the removal shall incur any liability toward the director by the mere fact of his removal, even if there be no grounds therefore.

23. Vacancy. The office of a director shall become vacant as of the moment his resignation or removal takes effect; likewise, a vacancy shall be created the moment a director ceases to be qualified to fulfill his duties, or if he should decease. Directors may continue to act despite one or several vacancies, provided a quorum still exists.

24. Remuneration. The remuneration paid to the directors shall be determined by resolution of the Board of Directors. Such remuneration shall normally be in addition to the salary or remuneration of any officer, employee or supplier of services of the Company who is also a director, unless a resolution states otherwise. The directors may also be reimbursed for travel and other expenses incurred by them in connection with their duties.

25. Irregularity. Notwithstanding any subsequent discovery that there was some defect in the election of the Board of Directors or in the election or appointment of a director, or the absence or loss of eligibility thereof, acts regularly done by them shall be as valid and as binding on the Company as if the election had been regular or each person eligible.

26. Borrowing. The directors may, when they deem expedient:

- (a) borrow money upon the credit of the Company;
- (b) issue debentures or other securities of the Company and pledge or sell same for such sums and at such prices as may be deemed expedient;
- (c) hypothecate the immovables and movables or otherwise affect the movable property of the Company;
- (d) delegate, in whole or in part, the powers mentioned hereinabove to one or more officers of the Company, to the extent and in accordance with the terms and conditions set out in the delegation resolution.

This by-law shall be regarded as an addition to, and not a replacement of, any borrowing by-law adopted by the Company for banking purposes unless otherwise specifically stipulated in such by-law.

27. Use of Property or Information. No director may mingle the Company's property with his own property or use for his own profit or that of a third person any property of the Company, including any information he obtains by reason of his duties, unless he is expressly and specifically authorized to do so by the shareholders of the Company.

28. Conflicts of Interest. A director shall avoid placing himself in a situation where his personal interest would conflict with his obligations as a director of the Company.

He shall promptly declare to the Company any interest he has in an enterprise or other entity that may place him in a situation of conflict of interest and any right he may set up against it, indicating their nature and value, where applicable. Such declaration of interest shall be recorded in the minutes of the proceedings of the Board of Directors. A general declaration shall be valid as long as the facts have not changed, and the director need not repeat it for a specific subsequent transaction.

29. Contracts with the Company. A director may, even in carrying on his duties, directly or indirectly acquire rights in the Company's property or enter into contracts with the Company, on condition that he immediately inform the Company of such fact by indicating the nature and value of the rights he is acquiring, and that he request that such fact be recorded in the minutes of the proceedings of the Board of Directors or the written resolution in lieu thereof.

A director who is so interested in an acquisition of property or a contract shall abstain, except if required, from the discussion and voting on the question and, if he votes, his vote shall not be counted. However, this rule does not apply to questions concerning the remuneration or condition of employment of the director.

At the request of the President or any director, the interested director shall leave the meeting while the Board of Directors discusses and votes on the acquisition or contract in question. The same shall be applicable to any director who has an interest in an offeror making an offer to purchase the shares of the Company by way of a take-over bid while the Board of Directors discusses and votes on such offer.

Neither the Company nor its shareholders may contest the validity of an acquisition of property or a contract involving the Company, on the one hand, and directly or indirectly a director, on the other, for the sole reason that the director is a party thereto or is interested therein, if such director made the declaration mentioned hereinabove immediately and correctly.

### **MEETINGS OF THE BOARD OF DIRECTORS**

30. Calling of Meetings. Each year, immediately after the annual meeting of the shareholders, a meeting of the new directors present shall be held without further notice if they constitute a quorum, to elect or appoint the officers of the Company and consider, deal with and dispose of any other matter.

Meetings of the Board of Directors may be called by or by order of the Chairman of the Board of Directors, if any, the President of the Company or two (2) directors, and such meetings may be held anywhere within or outside Quebec. A notice of each meeting specifying the place, date and time, shall be sent to each

director at the address appearing in the registers of the Company. Notice shall be sent no less than two (2) days prior to the date fixed for the meeting by any means of delivery authorized by law. In the absence of an address for a director, the notice may be sent to the address at which the sender considers that the notice is most likely to reach the director promptly.

In any case where the convening of a meeting is considered by the Chairman of the Board of Directors, if any, the President of the Company or a group of two (2) directors, to be a matter of urgency, he may cause notice to be given of a meeting of the Board of Directors by telephone, e-mail, fax or any other mode of transmission provided by the law, not less than twelve (12) hours before such meeting is to be held and such notice shall be adequate for the meeting so convened.

31. Quorum. A majority of the directors in office, although no less than three (3), shall constitute a quorum for a meeting of the Board of Directors. A quorum shall be present for the entire duration of the meeting.

32. Meeting Chairman and Secretary. Meetings of the Board of Directors shall be chaired by the Chairman of the Board of Directors, if any, or, failing him, by the President of the Company or, failing him, by a Vice-President designated for such purpose by the President. The Secretary of the Company shall act as secretary of the meetings. The directors present at a meeting may nevertheless appoint any other person as chairman or secretary of such meeting.

33. Procedure. The chairman of the meeting ensures that the meeting is conducted smoothly and submits to the Board the motions on which a vote is to be taken and generally conducts the procedure thereat in all respects, in which regard his decision shall be final and binding on all the directors. Should the chairman of the meeting fail to submit a motion, any director may submit the motion himself before the meeting is adjourned or closed and, if such motion lies within the competence of the Board of Directors, the Board of Directors shall consider it. Should the chairman of the meeting fail to carry out his duties loyally, the directors may remove him as chairman of that meeting at any time and replace him by another person.

34. Voting. Each director shall be entitled to one vote, and all matters shall be decided by the majority of the votes cast. The vote shall be taken by voice vote or by a show of hands unless the chairman of the meeting or a director requests a secret ballot, in which case the vote shall be taken by ballot. If the vote is taken by ballot, the secretary of the meeting shall act as scrutineer and count the ballots, which shall not in as much deprive him of his right to vote as a director, if such is the case. The fact of having voted by ballot shall not deprive a director of the right to express his dissent in respect of the resolution concerned and to cause such dissent to be recorded. Voting by proxy shall not be permitted, and the Chairman shall have no casting vote in the case of a tie vote.



## **EXECUTIVE COMMITTEE**

35. Election. The Board of Directors may, should it consist of more than six members, elect from among its number an Executive Committee comprised of no fewer than three members.

36. Officers, Quorum and Procedure. The Executive Committee shall have the power to appoint its own officers, to fix its quorum at no less than a majority of its members, and to determine its own procedure.

37. Powers. The Executive Committee shall be vested with the powers and authority of the Board of Directors for the administration of the day-to-day affairs of the Company, with the exception of those powers which, by law, must be exercised by the Board of Directors, and any power which the Board of Directors may expressly reserve for itself.

38. Supervisory Power of the Board of Directors. All acts of the Executive Committee shall be subject to the supervision of the Board of Directors and be reported to the Board of Directors, should the latter so direct. The Board of Directors may invalidate or amend decisions made by the Executive Committee, subject to the rights of third parties.

39. Meetings. Meetings of the Executive Committee may be held at the head office of the Company or at such other place within or outside Quebec as the Executive Committee may determine.

Meetings of the Executive Committee may be called by or by the order of its chairman or by two members of such committee.

40. Remuneration. The members of the Executive Committee shall be entitled to receive such remuneration for their services as members of the Executive Committee as the Board of Directors may determine.

41. Removal From Office and Filling of Vacancies. The Board of Directors may from time to time remove any member of the Executive Committee from office.

The Board of Directors may also fill any vacancy which may occur in the membership of the Executive Committee.

## **OTHER COMMITTEES**

42. Other Committees. The Board of Directors may appoint any other committee it deems appropriate, which may or may not be made up of members of the Board of Directors, and such committee shall only be vested with consultation powers. Unless the Board of Directors should direct otherwise, each

committee so appointed shall have the authority to set its own quorum at no less than a majority of its members, to elect its own chairman and determine its own procedures.

## **OFFICERS**

43. **Officers.** The Board of Directors may, by means of resolution, appoint any officer or other mandatary it may deem appropriate and determine their title, duties and powers. With the exception of the Chairman of the Board of Directors who must be a director, no other officer need be a director or shareholder of the Company. Any such officer or mandatary may be removed at any time by the Board of Directors, or may resign at any time upon notice to the Company.

## **IDEMNIFICATION AND EXEMPTION**

44. **Indemnification and Reimbursement of Expenses.** The Company is required to indemnify a person who acts or has acted as director, officer or other mandatary of the Company (hereafter the "Indemnified") for any prejudice suffered by reason or in respect of the performance of such duties with the Company and shall also reimburse him for reasonable expenses incurred for the same purposes, in each case in accordance with the provisions set out hereinbelow.

45. **Defence – Prosecution by Third Party.** The Company shall assume the defence of the Indemnified prosecuted by a third party for an act performed in the exercise of his duties and shall pay damages, if any, resulting from that act, unless it is due to a gross fault or intentional fault on his part that does not fall within the exercise of his duties. In particular, such an offence shall include the violation, by the Indemnified, of his duties of loyalty and honesty toward the Company, especially if he should place himself in a situation of conflict of interest.

Such assumption of defence shall involve the payment or reimbursement of reasonable judicial and extra-judicial costs incurred by the Indemnified who is prosecuted by a third party.

The payment of damages shall include the amounts paid to settle an action out of court and any fine imposed.

46. **Expenses – Penal Proceedings.** However, in a penal or criminal proceeding, the Company shall assume the payment of the expenses of the Indemnified only if he had reasonable grounds to believe that his conduct was in compliance with the law, or if he has been released or acquitted.

47. Prosecution by the Company. If the Company prosecutes a director, officer or other mandatary for an act or omission in the performance of his duties, it shall undertake to assume the reasonable judicial and extra-judicial costs reasonably incurred by such director, officer or mandatary, if it loses its case and the court so decides. If the Company wins its case only in part, the court may determine the amount of the expenses it shall assume.

48. Director of Another Company. The Company shall indemnify, in the manner set out in sections 44 to 47 hereinabove, any person who acts at its request as a director for another legal person of which it is a shareholder or creditor.

49. Liability Insurance. The Company may purchase and maintain for the benefit of its directors, officers and other mandataries, previous and actual, as well as their heirs, legatees and assigns, insurance covering their personal liability by reason of the fact that they perform such duties or act as directors of a legal person of which the Company is a shareholder or creditor.

50. Reimbursement of Expenses. Subject to a contractual agreement specifying or restricting this obligation, the Company is required to reimburse a director, an officer or other mandatary for reasonable and necessary expenses incurred by him in the exercise of his duties, plus interest from the date on which such expenses were paid by him. Such reimbursement shall be made upon presentation of all relevant vouchers.

## **CAPITAL STOCK**

51. Share Certificates and Share Transfers. Certificates representing the shares of the capital stock of the Company shall bear the signature of the President or a Vice-President and that of the Secretary or an Assistant Secretary. Any certificate bearing a signature of an authorized officer shall be deemed valid, notwithstanding the fact that the signatory has since ceased to hold such office within the Company.

52. Record Date and Closing of Books. The Board of Directors may fix a date preceding by no more than thirty (30) days the date of payment of a dividend, an allocation of rights or any other form of distribution as the record date for determining the shareholders entitled to such dividend, right or distribution; hence, only shareholders of record on the date so fixed shall be entitled thereto, notwithstanding any transfer of shares recorded in the registers of the Company between the record date and the date on which the dividend is paid, the rights allocated or the distribution made.

53. Transfer Agents. The Board of Directors may appoint or remove transfer agents or registrars and make by-laws regarding share transfers and the registration of shares. Any certificate of shares issued following such appointment shall, on pain of invalidity, be countersigned by one of the agents or registrars.

### **DIVIDENDS**

54. Dividends. The Board of Directors may, periodically and in compliance with the law, declare and pay dividends to the shareholders, in accordance with their respective rights.

The Board of Directors may stipulate that a dividend be payable, in whole or in part, in Company stock or property. For such purpose, it may authorize the issuance of shares of the capital stock of the Company as fully paid up or, with the consent of the beneficiaries of such dividend, as partially paid up.

When two or more persons are registered as joint holders of one share, each of them may give a valid receipt for any dividend payable or paid on such share.

### **FISCAL YEAR**

55. Fiscal Year. The fiscal year of the Company shall be determined by the Board of Directors.

### **COMPANY REPRESENTATION FOR CERTAIN PURPOSES**

56. Declaration. The President and Chief Executive Officer, the Chairman of the Board of Directors, any Vice-President or the Secretary and each of them or, any other person named by them, shall be authorized and eligible to make answer for the Company to all writs, orders or interrogatories upon articulated facts issued by any court and to declare for and on behalf of the Company any answer to writs of attachment by way of garnishment in which the Company is garnishee and to make all affidavits and sworn declarations in connection therewith or any and all judicial proceedings to which the Company is a party and to make demands for assignment of property or petition for winding-up or receivership orders upon any debtor of the Company and to attend and vote at all meetings of creditors of the Company's debtors and grant proxies in connection therewith.

57. Representation at Meetings. The President and Chief Executive Officer, the Chairman of the Board of Directors, any Vice-President and the Secretary, and each of them, or any other person named by them, shall represent the Company and attend and vote at any and all meetings of shareholders or

members of any firm, company, legal person, or syndicate in which the Company holds shares or is otherwise interested, and any measure taken or vote cast by them shall be deemed to be the act or vote of the Company.

58. Signature of Documents. Contracts, documents, written acts, including releases and discharges, requiring the signature of the Company may be validly signed by the President and Chief Executive Officer or by any person authorized by the Company's politic in force. The Board of Directors may also designate any other person to sign, alone or jointly with one or more other persons, and to deliver on behalf of the Company all contracts, documents and written acts, and such authorization may be given by resolution in general or specific terms.

59. Declarations in the Register. Any director having ceased to hold such office as a result of his resignation, removal or for any other reason shall be authorized to sign on behalf of the Company and file an amending declaration under the *Act respecting the legal publicity of sole proprietorships, partnerships and legal persons* (Quebec) to the effect that he has ceased to be a director, from fifteen days after the date of such cessation, unless he receives proof that the Company has filed such a declaration.

### **MISCELLANEOUS PROVISIONS**

60. Repeal. On the effective date of this General By-Laws, the by-laws then in existence shall be repealed. This repeal shall not affect any past application of the former general by-laws, nor the validity of steps taken, resolutions adopted, rights granted or general by-laws made prior to the said repeal. Any contract entered into or commitment made under the former general by-laws shall also remain valid.