

The Advisory Council

Report to the 23rd ITTC

1. MEMBERSHIP AND MEETINGS

The membership of the 23rd ITTC Advisory Council consisted of 32 organisations. There have been no changes in membership since the last Conference in September 1999.

Dr. Hans Broberg was elected as the Chairman and Dr. Keh-Sik Min as the Vice-Chairman. Mr. Willem van Berlekom was appointed as the Secretary.

The Advisory Council held three meetings since the last Conference. The first meeting was held in Val de Reuil, France, 18-19 September 2000, the second in Washington, USA, 22-23 October 2001 and the third meeting in Gothenburg, Sweden 11-12 March 2002.

2. ACTIVITIES AND RECOMMENDATIONS OF THE ADVISORY COUNCIL

2.1. Review of the work of the Technical Committees and Groups

All of the technical committees and groups provided progress reports for the meetings of the Advisory Council in September 2000 and October 2001. The reports contained information on the progress of each committee's work, attendance at meetings, and any other matters requiring the attention of the Council. The in-

terim reports were reviewed at the meetings of the Council and the progress of the work was carefully monitored and the committee chairmen were informed of the Council's comments.

2.2. Selection and evaluation of members of the Technical Committees

For the performance of the technical committees it is important that the members of the technical committees both have the competence and time to perform their task. In order to improve the selection process of members to the technical committees the Council has proposed a form for CVs for nominees to technical committees, see Appendix 3. The Executive Committee has approved this form.

The Council has also proposed that the chairmen of the technical committees shall make an evaluation of the committee members according to Appendix 4. The Executive Committee has accepted this proposal.

2.3. Technical Committee Reports and the ITTC Proceedings

The Council has the opinion that paper copies of the proceedings of the 23rd ITTC are still needed, but will in principle only be available at the conference. CDs containing the proceedings will be distributed by post.

It was agreed that the format of the proceedings of the 23rd ITTC should be similar to the proceedings for the 22nd ITTC.

Volume I

Reports of the Executive Committee, Advisory Council, General Committees and Group. Rules of the organisation and member lists.

Volume II

Reports of the Specialist Committees.

Volume III

The 23rd ITTC programme, list of participants and conference photograph. Discussion of technical committees' reports. Recommendations accepted by the 23rd Conference. Tasks of the general and specialist technical committees and groups for the 24th ITTC. Lists of the members of the technical committees and groups for the 24th ITTC.

The general committees were asked to keep their reports to about 50 pages and the reports of the specialist committees and group to 30 pages.

2.4. Manual of ITTC Recommended Procedures

The Quality Systems Group had been assigned to continue the major task of producing a series of publications containing the ITTC guidelines, recommended procedures and summary descriptions of benchmark data and validation test cases. It had also been agreed that the work of all the technical committees during the 23rd Conference period should be principally directed towards reviewing the existing and propose new ITTC recommended procedures.

All recommended procedures are as decided by the 22nd ITTC published in the ITTC Quality Manual.

2.5. Technical Committees for the 24th ITTC

At the meeting in March 2002, the Council reviewed the drafts of the "Technical Conclusions", "Recommendations to the Conference", and "Recommendations for Future Work" provided by each of the technical committees and group. Based on these reviews the Council has drafted a proposal for the tasks and structure of the 24th ITTC technical committees and groups, see Appendix 1.

The following committees are proposed:

General Committees:

Resistance
Propulsion
Manoeuvring
Seakeeping
Ocean Engineering

Specialist Committees:

Stability in Waves
Assessment of Ocean Environmental Issues
Ice
Validation of Waterjet Test Procedures
Cavitation Erosion on Propellers and Appendages on High Powered/High Speed Ships
Azimuthing Podded Propulsion
Powering Performance Prediction

Work tasks were also proposed for the Quality Systems Group.

2.6. ITTC Web Site

The Council decided that ITTC shall have one permanent website and one website for the next Conference. The Advisory Council Secretary is responsible for the permanent website and the Executive Committee Secretary is responsible for the next Conference website.

The permanent website will be hosted by SNAME. The Advisory Council secretary shall together with the by SNAME appointed contact person handle this website. The idea is that the permanent website shall be the collective memory of the ITTC. The Council is also of the opinion that the website and access to information on it, such as the Recommended ITTC Procedures etc, should at present not be restricted.

The organiser for the current conference will host a separate website. The two websites shall be linked to each other.

An outline of the contents of the two websites is presented in Appendix 2.

2.7. Application form for membership of the ITTC

In order to have a structured form of application for membership of the ITTC the Council has proposed a standardized form, see Appendix 5. The Executive Committee has approved this form.

2.8. ITTC Permanent logotype

Each ITTC Conference has had its own logotype. As a complement to these logotypes the Council decided that ITTC should have a general logotype, which could be used for documents etc, which are not just associated to one particular conference. An example of such documents is a procedure in the ITTC Quality Manual.

The general ITTC logotype is shown in Appendix 6.

3. OFFICERS FOR THE 24TH ITTC ADVISORY COUNCIL

Dr. Hans Broberg informed the Council that, as he has left SSPA, he will resign his post as the Council chairman. Mr. David Murdey was appointed as the Chairman for the 24th ITTC Advisory Council and Mr. Willem van Berlekom will continue as the Secretary.

Appendix 1

Interim Tasks and Structure of the 24th ITTC Technical Committees and Group

1. STRUCTURE OF THE TECHNICAL COMMITTEES

The structure of the technical committees remains in principle unchanged from the 23rd ITTC. However, the number of General Technical Committees has been increased from 4 to 5 by splitting the Loads and Responses Committee into 2 committees – Seakeeping Committee and Ocean Engineering Committee.

2. TERMS OF REFERENCE FOR THE GENERAL AND SPECIALIST TECHNICAL COMMITTEES AND GROUPS

2.1. General Committees

Each General Committee will be responsible for a general subject area. It will review the state-of-the-art, identify the need for research and development, and carry out longer term studies with broad impact.

An important part of the work of the General Committees will be to establish Procedures and Guidelines to help the ITTC member organizations maintain their institutional credibility with regard to quality assurance of products and services such as predictions, evaluation and project assurance of designs. The committee will develop detailed plans in accordance with Conference recommendations and its work should be directed towards

the techniques and understanding of physical and numerical modeling as a means of predicting full-scale behaviour. While maintaining an awareness of progress, fundamental theoretical studies and fundamental aspects of numerical fluid computation should be covered by other forum.

Each General Committee will submit a report on the results of its work to the Full Conference. The conclusions and the recommendations of the General Committee should be structured as follows:

1. General technical conclusions
2. Recommendations to the Conference, which require Conference actions as adopting ITTC Procedures etc.
3. Recommendations for future work of the General Technical Committee and identification of tasks, which may be appropriate for Specialist Committees. These recommendations shall be submitted to the Advisory Council. The Council will compile these recommendations and present them to the Full Conference.

2.2. Specialist Committees

The ITTC Advisory Council will propose Specialist Committees. Each Specialist Committee will be responsible for studying a specific technical problem. The Specialist Committees will be appointed for a limited duration. It is expected that they will complete

their tasks within maximum two ITTC periods (6 years). They shall interact closely with the appropriate General Committees. The tasks of a Specialist Committee can include to establish and/or review Procedures and Guidelines.

Each Specialist Committee will present a final report on the results of its work to the Full Conference and interim reports on progress if the duration of the committee spans more than one Conference. The conclusions and the recommendations of the Specialist Committee should be structured as follows:

1. General technical conclusions
2. Recommendations to the Conference, which require Conference actions as adopting ITTC Procedures etc.
3. Recommendations for future work and identification of tasks, which may be appropriate for Specialist Committees. These recommendations shall be submitted to the Advisory Council. The Council will compile these recommendations and present them to the Full Conference.

2.3. Groups

Groups may be established from time to time by the Executive Committee to carry out specific tasks for the Conference, which are not technical issues. Membership of a Group should not exceed three consecutive terms of three years, but the Executive Committee may make exceptions. Also normally Groups shall have fewer members than the Technical Committees. Such Groups shall be disestablished upon completion of their respective task objectives.

3. MECHANISM FOR IDENTIFYING NEW SPECIALIST TECHNICAL COMMITTEES

As part of their Terms of Reference, the General Committees shall consider the need for new tasks and include appropriate recom-

mendations in their technical reports. If the Advisory Council identifies a need for a new Specialist Committee when it reviews the draft recommendations of the general committees, the Council will prepare and agree a statement of the technical aims and objectives for the work of the Specialist Committee.

Independently of the recommendations of the General Committees, the Advisory Council will keep under continuous review the requirement for Specialist Committees.

When the Advisory Council has agreed the need for a new Specialist Committee, the draft statement of technical aims and objectives will be presented to the Executive Committee for endorsement. If the Executive Committee approves the formation of a new Specialist Committee, it will present the proposal to the Full Conference for approval.

4. PROPOSED STRUCTURE OF THE TECHNICAL COMMITTEES AND GROUP FOR THE 24TH ITTC

4.1. Technical Committees for the 24th ITTC

General Committees

- Resistance
- Propulsion
- Manoeuvring
- Seakeeping
- Ocean Engineering

Specialist Committees

- Stability in Waves
- Assessment of Ocean Environmental Issues
- Ice
- Validation of Waterjet Test Procedures
- Cavitation Erosion on Propellers and Appendages on High Powered – High Speed Ships
- Azimuthing Podded Propulsion
- Powering Performance Prediction

4.2. Group

- Quality Systems Group

5. TASKS OF THE TECHNICAL COMMITTEES AND GROUP OF THE 24TH ITTC

5.1. General Terms of Reference

All committees shall observe the terms of reference and general obligations as given in clause 2 above.

All committees shall identify areas of mutual interest for the committees and the concerned committees shall establish active co-operation in these areas.

In their work on Procedures the committees should co-operate with the Quality Systems Group.

Procedures must be in the format defined in the Manual of ITTC Recommended Procedures and they should be included in the Committee reports as separate appendices. Symbols and terminology should agree with those used in the current version of the ITTC SaT List (Symbols and Terminology List). If necessary new symbols should be proposed in collaboration with the Quality Systems Group.

5.2. General Committees

Resistance Committee

Review the state-of-the-art, comment on the potential impact of new developments on the ITTC in ship concepts, design methods and design optimization and identify the need for research and development. Identify developments in modeling of relevance to resistance. In particular review research and development in modeling and turbulence stimulation and provide recommendations for scaling

and extrapolation. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data and test cases for validation and uncertainty analysis and update as required. Identify the requirements for new procedures, benchmark data, validation and uncertainty analysis and stimulate the research necessary for their preparation

1. Continue review of trends in experimental fluid dynamics - EFD. Monitor developments in measurement methods especially in optical techniques for measuring flow velocity, pressure, body motion, and techniques for wave profiles, especially near bow and stern.
2. Review Uncertainty Analysis in experimental fluid dynamics and verify how it is utilized to improve accuracy of not only raw data but also derived quantities.
3. Review the development and identify the need for research in the computation at full scale, free surface treatment, unsteady flows, design methods and optimisation, and accurate modelling of turbulence. Validation by reliable data from experiments.
4. Develop ITTC recommended procedures including uncertainty analysis for additional towing tank measurements as needed (e.g., nominal wake). Develop benchmark tests for Gothenburg 2000 Workshop test cases (standard tanker, container, and combatant standard ship models/propellers) between ITTC member institutes for comparative measurements and uncertainty analysis for identifying facility biases and improving the insight on the facility operation. Improve recommendations with regard to scale effects for model size and turbulence stimulation.

5. Continue to monitor new developments in Verification and Validation methodology and procedures and update ITTC recommended Procedure 7.5-03-01-01 "Uncertainty Analysis in CFD, Uncertainty Assessment Methodology and Procedures". Prepare ITTC recommended Procedure 7.5-03-02-01 "Uncertainty Analysis in CFD, Examples for Resistance and Flow," based on a collective example of as many participants as possible following ITTC recommended Procedure 7.5-03-01-01 "Uncertainty Analysis in CFD, Uncertainty Assessment Methodology and Procedures" for Gothenburg 2000 Workshop test cases. Update benchmark database to validate numerical procedures, including recommendations for archiving, distribution, and use of data.
 6. Far Field Waves and Wash. Continue to monitor development of wash prediction techniques, in particular for trans-critical and supercritical regimes. Propose guidelines when enough experience has been collected.
2. Review the development of numerical design and analysis methods for propulsors.
 3. Review design and performance aspects of secondary thrusters, such as tunnel, azimuthing and dynamic positioning devices.
 4. Review development in prediction and assessment of wake wash and propulsion issues in shallow water.
 5. Review advancements in numerical methods for the computation of propeller induced effective wake, cavitation, and induced hull pressures.
 6. Review of design issues related to very large propellers for mega container ships, such as vibratory forces, cavitation and bearing forces.

Propulsion Committee

Review the state-of-the-art, comment on the potential impact of new developments on the ITTC and identify the need for research and development for propulsion systems. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data and test cases for validation and uncertainty analysis and update as required. Identify the requirements for new procedures, benchmark data, validation and uncertainty analysis and stimulate the research necessary for their preparation.

1. Develop an ITTC procedure for specifying the accuracy of model propeller geometry required for propulsion and cavitation testing.

Manoeuvring Committee

Review the state-of-the-art, comment on the potential impact of new developments on the ITTC and identify the need for research and development for predicting the manoeuvring behaviour of ships including high speed and unconventional vessels such as planing boats and catamarans. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data and test cases for validation and uncertainty analysis and update as required. Identify the requirements for new procedures, benchmark data, validation and uncertainty analysis and stimulate the research necessary for their preparation

1. Improve the procedure 7.5-02-06-02 "Manoeuvring Captive Model Test Procedure", in particular by addition of a section on circular motion tests. There is required a set of validation data for captive model tests in form of time records of forces for a given ship and a given

- motion history (i.e. Planar motion mechanism).
2. Continue work on procedures or guidelines for numerical applications in manoeuvring.
 3. Further improve and update the procedure 7.5-02-06-01 “Manoeuvring Free-sailing Model Test Procedure” and include an uncertainty analysis, primarily linked to the position measurement. Validation data for free-sailing model tests are necessary for other hull forms than “Esso Osaka” hull.
 4. Application specific numerical methods should be sought for confined waters and bank effects as well as ship/ship interaction. Work should be conducted to improve the regression methods regarding confined waters.

Seakeeping Committee

Review the state-of-the-art, comment on the potential impact of new developments on the ITTC and identify the need for research and development for predicting the behaviour of ships with forward speed in waves including high speed and unconventional vessels such as planing boats and catamarans. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data and test cases for validation and uncertainty analysis and update as required. Identify the requirements for new procedures, benchmark data, validation and uncertainty analysis and stimulate the research necessary for their preparation.

1. Review the first attempt of the Loads and Responses Committee of the 23rd ITTC to develop procedures for the validation of seakeeping computer codes in the frequency domain.

2. Develop a procedure for the validation of seakeeping computer codes in the time domain.
3. Review methods to determine impulsive pressure loads taking the characteristics of the structure into account. Develop experimental and numerical procedures for the prediction of bow and stern slamming, deck loads and loads on bow visors.
4. Develop a procedure for model experiments to determine whipping loads.
5. Develop a procedure for predicting the risk and magnitude of parametric rolling.
6. Review available seakeeping operability criteria.

Ocean Engineering Committee

Review the state-of-the-art, comment on the potential impact of new developments on the ITTC and identify the need for research and development for predicting the behavior of bottom founded or stationary floating structures including moored and dynamically positioned ships. The review should include the modeling and simulation of waves, wind and current environments in deep and finite depth water. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data and test cases for validation and uncertainty analysis and update as required. Identify the requirements for new procedures, benchmark data, validation and uncertainty analysis and stimulate the research necessary for their preparation.

1. Review the techniques for hybrid model testing and amend procedure 7.5-02-07-03.4 for Hybrid Mooring Simulation Model Test Experiments as required.
2. Develop procedures for the validation of computer codes in the time domain.

3. Review the first attempt of the Loads and Responses Committee of the 23rd ITTC to develop Procedures for the Validation of Codes in the Frequency Domain.
 4. Review the ITTC Procedure 7.5-02-07-03.3 for Model Testing on Tanker-Turret Systems, and update as required.
 5. Review the state-of-the-art of the prediction of the roll of floaters with risers and mooring systems.
 6. Monitor research on Vortex Induced Vibrations (VIV) and propose methods to model systems subject to VIV.
 7. Study and recommend guidelines for issues of importance to shallow water testing such as wave spectra, response non-linearity and mooring modeling.
 8. Recommend a procedure for the definition of directional irregular wave spectra, including measurement, accuracy, analysis and validation.
 9. Make an assessment of uncertainties in the modeling of nonlinear effects in a 100-year steep sea state, by a comparative benchmarking analysis including laboratory experiments, numerical models, theoretical prediction models as well as field data.
 10. The review of wave modeling and simulation should include topics such as wave generation on current and in finite depth waters; active wave absorption and reduction of parasitic laboratory waves; laboratory wave kinematics; and further integration of model test waves with numerical modelling.
2. Monitor and assess the implementation of the proposed experimental procedures for testing intact and damage stability, and recommend refinements as necessary.
 3. Identify weaknesses and recommend improvements to numerical models for predicting capsize of intact and damage ships in regular and irregular waves, and test their validity.
 4. Review the application of existing numerical and physical model testing techniques to ships other than RoRo's, including high-speed craft. In particular review and suggest improvements to the IMO Draft MSC Circular "Interim Guidelines for the Conduct of High-Speed Craft Model Tests"
 5. Develop numerical and experimental procedures for assessing both intact and damage stability for conventional and novel vessels.
 6. Review experimental and numerical techniques to predict extreme motions and course keeping characteristics in stern quartering seas, which may lead to broaching.
 7. Review experimental and numerical techniques for evaluating evacuation systems of ships and offshore structures in waves.

5.3. Specialist Committees

Committee on Stability in Waves

1. Report on the collective experience and knowledge of member organisations in the prediction of ship capsizing.

Committee on Assessment of Ocean Environmental Issues

Background

Protection of the global environment is an urgent and unavoidable issue for mankind in the 21st century. Since the ocean covers about 70% of the surface on the earth, it is expected to play important and crucial roles in the global environment. According to recent predictions by scientists, the ocean level rises as global warming takes place and density stratification of surface water becomes strong

which ultimately affects the marine ecosystem. Consequently, our life is also affected greatly by such changes of ocean environment.

As specialists in the fields of naval architecture and ocean engineering, we cannot allow ourselves to be totally uninterested and indifferent on this topic. Therefore, it is important and timely for us to tackle these environmental issues without limiting our concerns to conventional waves, currents and winds.

Tasks

Review aspects of the ocean environmental issues of interest to the ITTC and make recommendations for future work of the ITTC in this field. Topics may include:

1. Review of the environment pollution problems of ocean caused by spilled oil, other chemicals, marine debris and seabed litter.
2. Review of the state-of-the-arts technology for management, control and recovery of the pollutant in the ocean
3. Review of the experimental and numerical modelling technique for prediction of the distribution of pollutants.
4. Development of standard testing and certifying procedures for oil and chemical recovery tools and equipments.
5. Cooperation with organizations in other fields to deal with wider area of environmental problems.

Ice committee

1. Develop a procedure for general experimental uncertainty analysis for ice tank testing, including both bias and precision uncertainties.
2. Review test procedures and recommend guidelines, as applicable, for the per-

formance of offshore structures in ice-infested waters

3. Conduct tests in various tanks to develop a better understanding for the performance of open water propellers in level ice.
4. Produce a desktop template that deals with the main tasks to be performed and the responsibilities of the people involved in a typical test in the ice tank.
5. Review the numerical methods applied to ice engineering and provide a list of the applicable computer codes.

Committee on Validation of Waterjet Test Procedures

1. Finalize the standardization tests that are currently under way.
2. Using the results from the standardization tests, develop procedures and nomenclature for the performance of waterjet related tests (self propulsion, pump characteristics and waterjet system tests). These procedures should also include uncertainty assessments in performance predictions, that are based on experiments.

Note: These tasks are a completion of the tasks for the 23rd ITTC Committee on Validation of Waterjet Test Procedures.

Committee on Cavitation Erosion on Propellers and Appendages on High Powered/High Speed Ships

1. Develop procedure(s) for methods and scaling models of cavitation erosion on propellers and appendages
2. Develop guidelines for prevention of erosion
3. Develop a procedure for cavitation induced erosion tests.

Committee on Azimuthing Podded Propulsion

1. Review and make improvements to the procedure 7.5-02-03-01.3 for podded propulsor tests and extrapolation.
2. Recommend procedures for carrying out podded propulsor cavitation experiments.
3. Establish guidelines for extrapolation to full scale.
4. Review impact on off-design conditions to loads and stability.
5. Review impact on IMO manoeuvring criteria.

Committee on Powering Performance Prediction

1. Examine new extrapolation techniques for powering prediction including numerical methods such as the use of RANS codes. Develop corresponding correlation factors, if necessary.
2. Develop the uncertainty analysis of extrapolation methods as follows:
 - Accumulate trial results analyzed by using several extrapolation methods.
 - Complete the evaluation of the uncertainty analysis for power prediction by making use of uncertainty

- analysis for model-scale self-propulsion and open-water tests.
 - Perform validation of extrapolation methods for power prediction by comparing with speed trial data and full-scale tests, including uncertainty analysis.
3. Review the state of the art and recommend a standard procedure for predicting added resistance and added power in waves.

Quality Systems Group

1. Revise and update the ITTC Recommended Procedures. Modify and re-edit the existing procedures according to the comments of the Conference and the Technical Committees.
2. Update the ITTC Symbols and Terminology List according to ISO 31 Standard.
3. Put the ITTC Symbols in a relational database in order to be able to search according to your personal requirements
4. Revise and complete the Working Instructions on Standard Measuring Devices.
5. Stimulate, monitor and support validation work within the Technical Committees.

Appendix 2

ITTC Websites

The ITTC has two websites, one permanent website and one alternating site linked to the host for the current conference. The permanent website is hosted by SNAME and maintained in co-operation with the Advisory Council secretary. The two websites are linked to each other.

The permanent site contains:

- **General Information on ITTC**
 - Introduction
 - Rules
 - Member Organisations
 - Catalogue of Facilities
 - Application for Membership
- **Steering Bodies of the ITTC**
 - Executive Committee
 - Advisory Council
- **Documents**
 - ITTC-news
 - Proceedings of the ITTC from 22nd Conference and onwards
 - Symbols and Terminology
 - Quality Systems Manual
 - ITTC Recommended Procedures

The alternating site linked to the host for the current conference contains:

- **What is new**
 - ITTC-news issued in the current conference period
- **Technical Committees and Groups of the 23rd ITTC**
 - General Committees
 - Specialist Committees
 - Groups
- **Steering Bodies of the 23rd ITTC**
 - Executive Committee
 - Advisory Council
- **Next ITTC Full Conference**
 - Preliminary Program
 - Registration

Appendix 3

Form for *curriculum vitae* of nominees to ITTC Technical Committees



CV FOR NOMINEES TO TECHNICAL COMMITTEES

Nominee to Technical committee:	
ITTC Area:	
Name:	
Year of birth:	
University degree:	
Employer:	
Present position:	
Overview of former positions:	
Professional experiences last 5 years:	
<i>Publications last 5 years, which are of relevance for the actual Technical Committee, can be attached</i>	
Confirmation by employer that they will support nominee's participation in the technical committee	

Note: It is recommended to limit each CV to maximum 2 pages

Appendix 4

ITTC Technical Committees members performance evaluation sheet



EVALUATION OF MEMBERS PERFORMANCE IN TECHNICAL COMMITTEE	
<u>Technical Committee:</u>	
<u>Member</u>	
Name:	
ITTC Area	
Term	first / second / third
<u>Contribution to Committee Meetings:</u>	
Attendance:	times
Profitable opinions:	good / fair / none
Arrangement of Committee meetings:	Yes / No
<u>Contribution to Committee Report:</u>	
Leading author of report chapters	Yes / No
Contributed to report chapters	good / fair / none
Contributed to literature survey	good / fair / none
<u>General comments</u>	
<u>Evaluation</u>	
Membership should be continued	Yes / No
Membership should be changed to other Committee	
Chairmanship is recommended in Committee	Yes / No
<u>Signed:</u>	
Committee Chairman:	
Date:	

Appendix 5

Application Form to ITTC Membership



Application form for membership of the ITTC

Name of organisation	
Address	
Telephone, telefax	
E-mail	
Homepage	
Head / Director	
Contact person with ITTC	
E-mail to contact person	
Facilities for testing (including main dimensions and capabilities)	(Use standard format)
Other facilities	
Main activities	
Legal status	
Any other information of relevance	

Signed
(Director)

Appendix 6

ITTC Logotype

