

ST. XAVIER'S TECHNICAL INSTITUTE

Founded in 1937

Managed by The Society of Jesus (The Jesuits)

Founded in 1540

This Institute is part of an International Network of
Jesuit Educational Institutions
which includes 38 Universities &
3413 Educational Institutions in 68 countries

among them:

- * Georgetown University, Washington DC
- * Fordham University, New York
- * Heythrop College, London
- * Loyola University, Chicago
- * Marquette University, Milwaukee
- * Sophia University, Tokyo
- * Santa Clara University, San Jose

The Jesuit Educational Network in India includes
29 Colleges, 10 Technical Institutions
92 High Schools & 15 Specialized Institutions

among them:

- * Xavier Institute of Engineering, Mumbai
- * St. Xavier's College, Mumbai
- * Xavier Institute of Management & Research, Mumbai
- * Xavier Institute of Communications, Mumbai
- * Xavier Labour Relations Institute, Jamshedpur
- * Xavier Institute of Management, Bhubaneswar
- * St. Xavier's College, Kolkata
- * St. Joseph's College, Bangalore
- * Loyola College, Chennai
- * St. Aloysius College, Mangalore
- * St. Joseph's College, Tiruchirapalli
- * St. Joseph's College, North Point, Darjeeling

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VISION

TO NURTURE THE JOY OF EXCELLENCE
IN A WORLD OF HIGH TECHNOLOGY

MISSION

TO STRIVE TO MATCH GLOBAL STANDARDS
IN TECHNICAL EDUCATION BY

1. INTERACTION WITH INDUSTRY
2. CONTINUOUS STAFF TRAINING AND
3. DEVELOPMENT OF QUALITY OF LIFE OF
STAFF AND STUDENTS



St. Xavier's Technical Institute (X-TECH) started operations in the premises of **St. Xavier's College** in 1937 and was transferred to its own building in Mahim in June 1967.

The aim of the Institute is to develop men and women who are not just top quality engineers but also well developed persons. Our motto therefore is **“the joy of excellence in a world of high technology”**.

The Institute provides facilities for professional and specialized training in Electronics. In today's world of sophisticated technology there is a demand in industry for persons capable of handling sophisticated electronic equipment, with a focus on the ability to actually operate, maintain and adapt such equipment to customised requirements. The courses are therefore designed to combine up-to-date theory with much of 'hands on' practicals in the labs and workshops.

Further, the highly competitive world of today needs well developed persons and hence developing **soft skills (Professional Practices) and "Vocational Training"** in different industries are required subjects in our full-time Diploma.

The Government of Maharashtra has accorded **Minority Status** to this Institute as conducted by the **Catholic minority**.

From June 1994 St. Xavier's has been granted **Academic Autonomy** by the Government of Maharashtra . This is in recognition of the high standards maintained by the Institute in Technical Education. This means that the Institute conducts its own Diploma examinations which are recognised by Government as **equivalent** to those of the **Maharashtra State Board of Technical Education**.

The Institute has been awarded **ISO 9001:2000 Quality certification** for its Marine Department. St. Xavier's Technical Institute had set up a Software Development Centre which was awarded a number of prestigious projects. In 1999 the Directorate of Technical Education of Maharashtra State commissioned St. Xavier's to set up an **electronic network of 46 technical institutions** all over the state. This included the Directorate itself, the Directorate of Industry-Institute Co-ordination, the Board of Technical Education and 43 other Institutions in the State. This project was funded by the World Bank. A separate project was also awarded for **the computerisation of the Maharashtra State Board of Technical Education** which controls technical examinations in the state.

The State Board of Technical Education has also awarded this Institute a Project of providing an On-line Examination for the **Government employees confirmatory test**. This project includes the development of the entire Question Bank for the examination. A Project for the computerization of Holy Family Hospital and Research Centre and the new Holy Family Heart Institute with very modern facilities like MRI and CAT SCAN was also awarded to this Institute and was completed.

X-TECH organized one State & level and three National Level **Technical Paper Presentation & Project Exhibition in the last four consecutive years**.

X-TECH re-organized the **IETE** Students' Chapter & conducted a state level MSBTE Quiz in IT / COMP.

X-TECH arranges for conducting Campus Interviews for our Final Year Students as per Industry requirements. Some Companies conduct interviews at their own premises.

X-TECH has arranged industrial visits at Mumbai, Pune, Silvassa & Bangalore for all the students.

X-TECH has developed in-house Lab Manuals for all subjects.



ADMINISTRATION AND FACULTY

DIRECTOR	- Fr. Reginald Tauro, S.J.
PRINCIPAL	- Dr. Shivaji B. Ghungrad
ADMINISTRATOR	- Fr. Fabian Barreto, S.J.

ADMINISTRATIVE STAFF

Office Staff	Mrs. A. L. Monserrate Mr. C. A. Fernandes Mrs. A. Gama Mrs. Z. C. Johnstone Mrs. H. M. Cerejo Ms. B. Amin
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FACULTY

Mr. V. R. Rathod	Head of the Department	12 years
Mr. H.S. Kalsi	Lecturer (Selection Grade)	33 years
Mrs. S.Y. Patni	Lecturer (Selection Grade)	32 years
Mr. V.M. Vaghela	Lecturer (Selection Grade)	32 years
Mr. K.H. Kamath	Lecturer (Selection Grade)	24 years
Mr. S.N. Jirapure	Lecturer (Selection Grade)	19 years
Mr. R.V. Gheware	Lecturer (Senior Scale)	18 years
Mrs. J. Natarajan	Lecturer	13 years
Mrs. S. Datta	Lecturer	13 years



Mr. A.C. Gurav	Lecturer	8½ years
Mr. M.K. Khobragade	Lecturer	5½ years
Mr. S. R. Borkar	Lecturer	17 years
Mr. M. M. Munde	Lecturer	9 years
Mr. Vinay Kumar Nagalikar	Lecturer	2 years
Mrs. Ujwala Dalmat	Lecturer	2 years
Mr. Gautam Yadav	Lecturer	9 months
Mrs. S. Gaoshinde	Lecturer	9 months
Mr. R. Titus	Astt. Lecturer	32 years
Mr. F. Chettiar	Astt.Lecturer	30 years
Mrs. R. Sumathi	Librarian	13 years

EXAMINATION CELL

Mr. A. Dhannawat	Controller of Examinations	9 months
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SUPPORTING TECHNICAL STAFF

Mr. B. P. Thakur	Artist	24 years
Mrs. A. Samant	Lab Assistant	17 years
Mrs. A. Rajpure	Lab Assistant	15 years
Mr. D.D. Chavan	Lab Assistant	12 years
Mrs. D.C. Jadhav	Lab Assistant	7½ years



ADMISSION AND FEES

The Institute is open to men and women from all parts of India, and neighbouring countries regardless of caste or creed. However because of an order of Maharashtra Government, the Diploma programme is open only to those who have completed the two academic years preceding the qualifying examination in recognized Institutions in Maharashtra State. This requirement is not applicable in the case of sons and daughters of persons holding a domicile certificate and ordinarily resident of Maharashtra though working outside Maharashtra State. Admissions to the Diploma programme is done as per rules of admission issued by the Government of Maharashtra, as applicable to Autonomous Institutions.

Applications for admission from Roman Catholic Minority will be accepted on the following conditions:

- 1) The Printed Application Form (available from the Institute Office) must be duly filled in by the Applicant in his/her own handwriting, and signed by the Applicant and Parent (or Guardian) and must be submitted on the date indicated on the Institute's Notice Board.
 - 2) The Application must be accompanied by:
 - a) Attested Mark-sheets; the originals* will be returned after inspection by the Office but must be submitted if selected.
 - b) 2 passport size photographs;
 - c) Attested copy of Leaving Certificate from School or last Institution attended;
 - d) Attested copy of Baptism Certificate ..
- * The original mark-sheet and Leaving Certificate must be submitted at the time of admission, if selected.

Admissions are granted strictly on merit as per guidelines issued by the Government.

An Applicant who is selected must pay the Registration Fee, Library Fee, co-curricular activities fee, development fees, Caution Money, Periodic Test, Manual fees, industrial visit, exam fees & tuition fees for the whole year. The total fees and mode of payment will be displayed on the Institute Notice Board and the Institute Website.

If he/she fails to pay within the specified time the provisional admission will immediately be cancelled and his/her seat will be allotted to one of those on the waiting list. Applicants and their Parents (or Guardians) are particularly warned to note the last date for payment so as to avoid embarrassing situations. Refund of fees in case of withdrawal of application/admission for the Diploma programmes is as per the rules of the Government of Maharashtra.



Caution Money will be refunded (after deducting cost for damages, if any, to laboratory instruments, library books etc.) when a student completes the full programme/course undertaken, and claims the amount within three months after completing the programme/course up to the final exam. The Caution money is refunded only on Wednesdays and Fridays, between 9.30 a.m. and 12.30 p.m..

The Caution Money is a guarantee of intention to pursue the full course. It will be refunded if full fees of the course have been paid.

Unsuccessful students re-appearing for the exam can avail of library facilities after paying Rs.1000/- towards library deposit.

ATTENDANCE, PROGRESS AND PROMOTION

To check the progress of the students, written, oral or practical tests are held during each semester; the marks thus obtained contribute to the evaluation of the candidate's performance during the semester and, later on, for the entire programme. Students whose Attendance is less than 75% in any subject, will not be permitted to appear for the examination in that particular subject.

REGULAR ATTENDANCE as a necessary condition of eligibility to examinations, and **PUNCTUALITY**, as training for business life, will be strictly enforced in the Institute.

Prospective candidates, all students and their parents (or guardians) should take careful note of the above regulations and realise that the Authorities will insist on their application. In such matters the decision of the Principal is final and no complaint will be entertained if a student fails, for any reason whatsoever, to reach that standard which, in the opinion of the Principal, is required of a student to be allowed to appear for the Final Examination.



RULES CONCERNING CONDUCT, PROGRESS, ETC.

1. In order that each student may enjoy the full benefits of the facilities placed at his/her disposal, he/she has to abide by the regulations of the Institute. They are designed solely to safeguard the student's welfare and privileges and those of his/her fellow students, and each student will therefore be expected to conduct himself/herself accordingly.
2. Students are expected to behave with decorum, to obey the regulations of the Institute in all aspects and to pay due respect to its Faculty and Subordinate Officials. Conduct inconsistent with general good order, or persistent neglect of work or failure to respond promptly to official notices may be punished with dismissal.
3. Loud speaking, loitering or congregating in the corridors and staircases is a source of distraction and annoyance to others and is therefore not permitted.
4. Smoking is strictly prohibited on the premises even before or after class periods.
5. Students must realise at the very beginning of their programme/ course that the habit (often acquired in school and college) of studying seriously only in the last month before the Examinations cannot be tolerated in an Institute of Engineering and Technology. Daily study is necessary. The aim of a student should be to become an efficient Engineer or Technician and not merely to pass examinations or acquire a Diploma or Certificate.
6. Students are required to attend punctually all scheduled theory and laboratory periods. Irregular attendance, habitual tardiness or inattentiveness may lead to dismissal. Five consecutive days of absence without reasonable excuse will constitute enough cause for dismissal. Absence must be justified by a note from Parent (or Guardian) or a medical certificate.
7. When a student prematurely terminates his/her training, whatever be the reason, or has been dismissed from the Institute, or has to leave because of unsatisfactory progress and/attendance, any fees already paid to the Institute, including the caution money, will be forfeited.
8. In case of damage to furniture, apparatus or other property of the Institute, the cost of repairs will be charged to the student responsible for the damage.
9. The Leaving Certificate for completion of the Programme is issued only to those students who appear for the Final Examinations in all subjects and are declared successful and at the same time all the dues to the Institute have been paid, and Library books returned.
10. Ragging is a serious offence and any student violating this rule will be handed over to the police for prosecution under the laws in force.
11. As per Govt. rule, use of Mobiles in campus is not permitted.

In all matters concerning the Institute's administration and regulations the decision of the Principal is final and applicants are accepted only after they undertake (in the Application Form for Admission) to abide by these rules and regulations and others made from time to time.



AUTONOMOUS DIPLOMA RULES

In June 1994 the Government granted autonomy to St. Xavier's Technical Institute.

As an autonomous Institute, the curricula of the Diploma programme can be up-dated frequently with the fast changes of technology. The Institute has its own Governing Council and Board of Studies to examine and approve such changes.

Whereas a common complaint about technical education is that it lags far behind current technology and teaches much that is obsolete, this academic autonomy allows St. Xavier's to keep its content up-to-date with the latest in technology.

From June 1998, the Institute has introduced the **Competency Based Education (CBE)** System. The curricula were completely revised based on the competencies required by industries as determined by many meetings and 3 conferences held with industry experts. This changed the focus of our Diploma to a combination of needed theory with stronger emphasis on practical applications.

The Credit System allows a student to select from several elective subjects which are offered at various times, together with the compulsory subjects to earn the total credits required for the award of a Diploma, the minimum requirement being 180.

In the Standard Path a student covers the given subjects at a standard pace that is meant for normal students. However, brilliant students may opt to cover the required credits faster; or students who need more time can go through total credits required at a slower pace.

At each semester examination a student can choose to register for the course he/she desires.

A student can keep terms for the next year while holding a backlog of upto 4 courses of previous year.

All the above options are subject to obtaining prior permission and sanction of the Principal.

HOSTEL

Due to unavoidable circumstances no hostel accommodation can be provided by the Institute. Candidates applying for admission to the Institute must make their own arrangements for boarding and lodging.



LIBRARY

The Library is open to the Staff and students of the Institute. All are encouraged to make good use of the Library and for the benefit of all, the following rules will be observed:

1. Library books will be issued to our Institute students only on presentation of the Identity Card Library card and after the proper form has been signed.
2. STUDENTS MUST, ON RECEIVING BOOKS, EXAMINE THEM AND IMMEDIATELY REPORT TO THE LIBRARIAN ANY DAMAGE FOUND IN THEM. IF THEY FAIL TO DO SO, THEY WILL BE HELD RESPONSIBLE FOR ANY DAMAGE THAT MAY BE DETECTED LATER.
3. If the book or magazine is returned to the Library soiled, torn or in a bad condition, the Librarian has the right to reject the book; the total cost of which will be charged to the student. If the book is not rejected, a fine will be charged equivalent to the damage done.
4. Books issued from the Library may be kept for seven consecutive days only, (or less, in the case of books much in demand). No student will be allowed to have more than two books in his/her keeping.
5. Although a student is allowed the use of books for seven days, he/she is expected to return them as soon as he/she does not need them, for the benefit of other students who may be waiting for them.
6. If a student, for any reason whatever fails to return books or magazines, in due time, a fine of Rs. 1.00 will be charged per book per day of delay. For the purpose of this rule, Sundays and holidays are counted.
7. Library fines due to the Institute shall be paid to the Librarian in cash and a receipt obtained.
8. Students can avail the BOOK-BANK facilities by paying ₹ 300/- per year.
9. Ex-students of the Institute can avail of library facilities after paying ₹ 2000/- as a refundable deposit, and ₹ 300/- per year as library fee.
10. After completion of the even semester exams, students must return all books (and pay all fines) to the Library, or else their results will be with held.





DIPLOMA PROGRAMME in ELECTRONICS AND TELECOMMUNICATION ENGINEERING (DETE)

Intake : 140

This course is recognized and aided by the Maharashtra State Government and approved by the A.I.C.T.E. St. Xavier's has been granted autonomy by the Government and issues its own Diplomas which are recognized by the Government and equivalent to the Diplomas issued by the Maharashtra State Board of Technical Education (MSBTE). Admissions are done through Centralized Admission Process (C.A.P.) for Non-Minority candidates. Kindly refer to the guidelines given in the "Rules for Admissions to First Year of Post S.S.C. Diploma courses in Engineering" on the website www.dte.org.in. The brochures are also available at all Application Receipt Centres (ARCs).

Note: 50% of intake is reserved for Minority (Roman Catholic) applicants. All other reservations are in accordance with the rules laid down by the D.T.E., Government of Maharashtra. The dates and other important information will be displayed on the Institute Notice Board and the website.

MINIMUM QUALIFICATION : Secondary School Certificate in Science and Maths subjects with an aggregate of 50% for Open Category candidates and 45% in case of Reserved Category candidates. Please note the orders of the Maharashtra Government concerning other conditions for admissions.

Admissions begin on the day the Std. X results are declared/or as notified by the Director of Technical Education (M.S.).

DURATION : 3 years (6 semesters), Full time from 9.00 a.m. to 5.00 p.m.

Direct Admission to the Second Year of D.E.T.E. :

Kindly refer to the Admission Brochure of the D.T.E. or see the guidelines on the website www.dte.org.in.

ADMISSION TO DEGREE & POST DIPLOMA COURSES : Students who score a First Class in the Diploma are eligible to be directly admitted to the Third Semester (**Second Year**) of a Degree in Engineering in the respective discipline. Students who do not secure a First Class but obtain a minimum of 50% are eligible for admission to the First Semester / year Engineering Degree in any discipline. Such admissions will be done only after the third round of Degree admissions is over or as decided by the Government.

The students can also opt for Post Diploma programmes in specialized areas like Computer hardware, software, Medical electronics etc.



DIPLOMA PROGRAMME

IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING (DETE)

SCOPE: The programme provides the student with a good foundation in Engineering Electronics that helps him/her to specialise later in any branches like Electronics, Telecommunications, Electrical Engineering, Computers, Industrial Electronics, Process Control, Microprocessors, Electronic Instrumentation etc.

D.E.T.E. PROGRAMME: CONDENSED CURRICULUM

Courses offered in Semester I :	Courses offered in Semester II :
Basic Mathematics [ET-101] Theory : 4	Engineering Mathematics [ET-201] Theory : 4
Basic Electronic Devices [ET-102] Theory : 4, Practical : 2	Basic Electronic Circuits [ET-202] Theory : 4, Practical : 2
Basic Electrical Engineering [ET-103] Theory : 4, Practical : 2	Transducers [ET-203] Theory : 4, Practical : 2
Communication Skills [ET-104] Theory : 4, Tutorial : 1	Electronic Devices and Applications [ET-204] Theory : 4, Practical : 2
Computer Applications [ET-105] Practical : 2	Engineering Drawing & C.A.D. [ET-205] Theory : 2, Practical : 2
Electronics Materials & Components [ET-106] Theory : 4, Tutorial : 1	Electrical Machines [ET-206] Theory : 4, Practical : 2
Professional Practices [ET-107] Theory : 2	Electronic Workshop [ET-207] Practical : 2

Semester IV subjects/credits subject to change/modification based on decisions to be taken at the Board of Studies meeting and discussion before the commencement of Semester IV

Courses offered in current Semester III :	Courses offered in current Semester IV :
Applied Mathematics [ET-301] Theory : 4	Advanced Applied Mathematics [ET-401] Theory : 4
Principles of Communication I [ET-302] Theory : 4 Practical : 2	Principles of Communication-II [ET-402] Theory : 4 Practical : 2
Electronic Test Instruments [ET-303] Theory : 4 Practical : 2	Digital Electronics [ET-403] Theory : 4 Practical : 2
'C' Programming [ET-304] Theory : 4, Practical : 4	Microprocessors & Peripherals [ET-404] Theory : 4 Practical : 2
Linear Integrated Circuits [ET-305] Theory : 4 Practical : 2	Circuits and Networks [ET-405] Theory : 4 Practical : 2
	MATLAB Practice [ET-406] Practical : 2
	Mini Project [ET-407] Practical : 2



D.E.T.E. PROGRAMME: CONDENSED CURRICULUM

Courses offered in current Semester V

Entrepreneurship [ET-501]

Theory : 4

Signals and Systems [ET-502]

Theory : 4, Practical : 2

Advanced Communication Systems [ET-503]

Theory : 4, Practical : 2

Project Seminar [ET-504]

Practical : 2

Industrial Electronics [ET-505]

Theory : 4, Practical : 2

Vocational Training [ET-506]

Practical : 2 + 2**

Circuit Simulation and PCB Design [ET-507]

Practical : 2

** 2 credits for actual vocational training in industry

Courses offered in current Semester VI:

Mobile Communication [ET-601]

Theory : 4

Digital Signal Processing [ET-602]

Theory : 4

Practical : 2

Data Communication & Computer Networking [ET-603]

Theory : 4, Practical : 2

Digital Communication [ET-604]

Theory : 4, Practical : 2

Microcontroller & Applications [ET-605]

Theory : 4

Practical : 2

Project [ET-606]

Practical : 4



FEES STRUCTURE OF DIPLOMA COURSE

Fees (Per annum)

Tuition fee	₹	6000/-
Development fee	₹	1000/-
Co-curricular activities fee	₹	300/-
Internet & E-mail facilities fee	₹	150/-
Library fee	₹	100/-
Caution Money	₹	500/- (Refundable as per rules)
Exam Fees (Rs.600/- per Semester)	₹	1200/- * (Two Semesters)
Manual (Rs.550/- per Semester)	₹	1100/- *
Periodic Tests & Assignment Papers	₹	700/- *
Industrial Visits	₹	650/- *
Electronic Tool-Kit	₹	1300/- **

These fees are fixed by the Government and are subject to revision.

* These fees are charged as per requirements of the Autonomous Institution.

** The Electronic Tool-Kit consists of the following items:

Digital Multi-meter; screw-driver set; soldering iron; desoldering pump; nose plier; cutter; wire stripper; bread board; line tester; test probes; kit box. ..

For Open & Minority categories : ₹ 13,000/-

To be paid by TWO Demand drafts / Pay Orders:

i) ₹ 9250/- and ii) ₹ 3750/-

to be drawn in favour of "St. Xavier's Technical Institute, Mumbai"

For Reserved & EBC categories : ₹ 7,000/-

To be paid by TWO Demand drafts / Pay Orders:

i) ₹ 3250/- and ii) ₹ 3750/-

to be drawn in favour of "St. Xavier's Technical Institute, Mumbai"



COURSES FOR MARINE OFFICERS

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS : INDIAN & BRITISH)

St. Xavier's is the Regional Examination Centre for the Global Maritime Distress and Safety System Course appointed by Association of Marine Electronics & Radio Colleges [U.K] In June 1994 St. Xavier's was accepted as a full member of AMERC, U.K., making it the first International Member of AMERC. Now this license has been transferred to Bibby International Services [India] Pvt. Ltd., who under the direct name of Sir Derek Bibby Maritime Training Centre is conducting GMDSS Maritime Courses, DPO Courses & Welder Courses. The institute has been awarded ISO 9001:2000 Quality certification for its Marine Department. In February 2000, St. Xavier's received the approval from the Directorate General of Shipping and the Ministry of Communications to conduct and train candidates for the GMDSS [India Certification] Examinations, the Certificate for which is awarded by the Government of India.

The curriculum of this course covers the requirements of the International Maritime Organization for a GMDSS Operator. The Indian course has been approved by the Indian Government and the U.K. by the British authority for conducting the GMDSS course.

The Indian examination is conducted by the Directorate General of Shipping and the W.P.C., Ministry of Communications, Government of India. The British examination is conducted by the Association of Marine Electronics and Radio Colleges, U.K. The certificates are issued by the Maritime and Coastguard Agency on behalf of the U.K. Government.

AUTOMATIC RADAR PLOTTING AIDS (ARPA)

The curriculum for the Course is in accordance with and satisfies the relevant regulations / resolutions of IMO / STCW conventions.

The Course is approved by the Directorate General of Shipping, Government of India.

RADAR OBSERVATION COURSE (ROC)

The curriculum for the Course is in accordance with and satisfies the relevant regulations / resolutions of IMO/STCW conventions. The Course is approved by the Directorate General of Shipping, Government of India.

RADAR, ARPA & NAVIGATION SIMULATOR COURSE (RANSCO)

The curriculum for the Course is in accordance with and satisfies the relevant regulations / resolutions of IMO/STCW conventions. The Course is approved by the Directorate General of Shipping, Government of India.

DYNAMIC POSITIONING COURSES

Basic Induction Course: Provides basic knowledge to a fresher, about the fundamentals involved in holding precise position of a vessel for various offshore functions like drill support, diving support, cable laying, rock dumping, and recovery of submerged interests.

Advanced Simulator Course: The student having complied with the above returns for an intensive 5 days training, mainly on a dedicated Kongsberg Kpos-II Simulator.

ECDIS (ELECTRONIC CHART DISPLAY INFORMATION SYSTEM COURSE)

Training would involve working on Navigational Simulator using the Transas Navi-Sailor 4000 ECDIS, which is the world's most commonly used shipboard electronic chart systems operating on thousands of ships. The Transas ECDIS holds type approval certificates from the BSN, DNV and the Russian Maritime Registrar of Shipping.