

# CAPABILITY STATEMENT



KNOWLEDGE ENGINEERING  
ISO 9001, ISO 14001,  
OHSAS 18001

Factory and Support Office at :

- Indonesia
- India
- Malaysia
- USA
- Jordan
- Australia
- Singapore

TOTAL TECHNICAL TRAINING SOLUTION

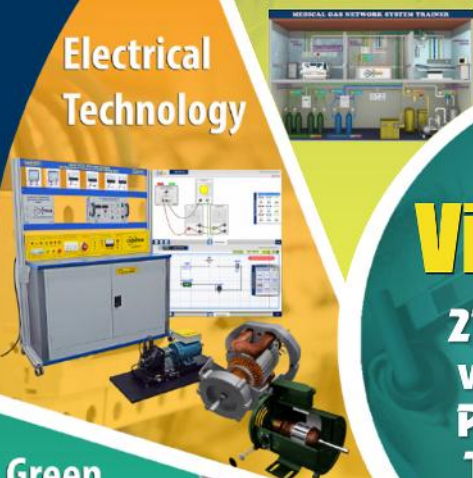
Biomedical Technology



HVAC



Electrical Technology



Electronics



**Virtual TVET**

21st Century TVET  
with Over 1.000  
Physical & Virtual  
Training Systems

Green Technology



Computer and Network Technology



Automotive



MAKING TECHNOLOGY VISIBLE

PT. LABTECH PENTA INTERNATIONAL

[www.labtech.org](http://www.labtech.org)



# INTRODUCTION

## Establishment of Labtech

**Early Formation:** Labtech was formed and evolved from a USA company that was one of the Major Educational Suppliers and Consultants to World Bank for International Education Development Projects. Our origins go back to almost 30 years ago (1984) when Labtech started off as a production unit created by this American Educational & Training company that had been operating in the field since 1974. The USA company later evolved into a high-tech company and Labtech was given its own structure in 1989 as an independent company to carry on in the field of education, based in Asia with its main manufacturing plant in Indonesia.

## Location of Labtech International Ltd

**General Philosophy:** Labtech has its origins 30 years ago and was the one of the first International manufacturers of technical education equipment to be established in Asia. Our prime goal is to design and produce a new generation of technical education equipment that is suitable for developing and industrializing countries. Our products match with the local requirements, learning patterns, economic and industrial backgrounds found in our client countries. We think of ourselves as a "Knowledge Engineering" company which tries to make technology visible in order to equip students with employable skills. We see our role as a catalyst that makes change possible in education, by working together with leading schools in the region we bring new ideas and products to the education marketplace that can respond to local needs and requirements.

**International Structure and Management:** From the start, Labtech was setup with an international structure that would reflect its market and purpose. The original founders of the company were from the USA and remain active shareholders and managers until today. However, over time as the company developed and evolved there are also partners from a number of other countries. The corporate entity is established across S. E. Asia with offices and factories in Indonesia, Malaysia and Singapore. The management team has lengthy experience in the educational field and is comprised of Americans, Malaysians, Indonesians, Australians and Thai citizens.

**Manufacturing Location:** It was decided early on to locate the factory outside the USA for several reasons. We wanted to be closer to our markets which would result in several benefits for our customers. Mainly these benefits are lower shipping costs, closer and better support service and, perhaps most importantly, it allows us to integrate our factory into the educational systems of several key countries in South East Asia. The result of this is that we understand in detail the needs and workings of the educational systems in this region and have been a contributing force to educational development over the years.

**Physical Infrastructure:** Labtech's main factory complex sits on 2.6 hectares of land on Batam Island in Indonesia which is a duty-free zone. Our factory is about 6,000 square meters. We have departments for researching engineering and teaching design, graphics creation and product (teaching aids) design, Computer Programming, design of e-learning systems, hardware integration and data acquisition and control systems. General administrative offices include finance, marketing, and production and quality control. Technical production departments include electrical, electronics, silk-screening, Printed Circuit Board production, automotive, mechanical, maintenance, welding, painting and carpentry. The staff at Labtech are well experienced in the design of training systems, manufacturing of educational equipment and have technical expertise in a number of key areas which match the product line range.



# CAPABILITY STATEMENT

## Areas of Technology Training

Largest Product Line of any Asian Educational Manufacturer: Labtech has a very wide product range in six areas of Technology that are all key areas in technical education, include ICT, Electronics, Electric, HVAC (Heating Ventilating and Air Conditioning), Renewable Energy (Green Tech) and Automotive. It has conducted the R&D development of the product line over a 30-year period and it continues adding new items and redesigning existing every year.

1. **Automotive or Transportation Technology:** Labtech has the largest product line of Automotive training systems in the world. It is also the leader in developing new systems especially for Japanese oriented vehicles. No one makes a wider variety of products for transportation than Labtech, nor can many compete with our technology or prices.
2. **Electronics Technology:** Labtech's product range has a very comprehensive set of training systems to cover the basic fundamentals as well as a wide range of technology or skill specific trainers that cover applications such as TVs, VCR systems, radio communications, Data Acquisition, Basic electronics, Instrumentation, etc.
3. **Computer IT Engineering:** Labtech is of the world's leaders in technician and engineering training systems for the Computer IT area. We update our product line every year to offer the latest technology to meet the rapid challenges in the IT field. We have a variety of systems that train about the hardware engineering, computer assembly, repair, network systems and data acquisition and control.
4. **Electrical Technology:** Labtech has a special panel type training system which forms the heart of this product line. It has been adapted to many types of applications covering the fundamentals of electricity and onto residential and industrial installations and controls. We have comprehensive training systems for Electrical Motors and Industrial Motor Controls. We have extensive PLC training systems as well as modules for sensor/transducer and automation. These modules are able to be configured to form a complete mechatronics lab together with systems from our electronics and mechanical trainers.
5. **Air Conditioning and Refrigeration:** Labtech has over the last decade become one of the global leaders in this area and our training systems cover everything from basics to residential to industrial refrigeration and air conditioning systems. The range is now one of the more comprehensive on the market and addresses many levels of training up to systems for engineers. One our special areas in this field is for Building Management Systems that employ DDC technology (direct digital control) which enables computer control of entire buildings.
6. **Renewable Energy or Green Tech:** Labtech has been making various models of renewable energy training systems for many years, these have been embedded into our various programs for electronics, electrical, mechanical and automotive systems. We have recently drawn together these training systems and reorganized them to formulate a comprehensive Green Tech program that covers: thermal solar, Photo Voltaic Systems, wind, small scale hydro systems (micro hydro), Heat pumps and geo-thermal sources. Biomass, biofuel, Green Tech automotive and integration of these systems for residential and commercial applications.
7. **Digital Learning:** Labtech is now producing a series of multimedia e-learning technologies that complement its physical hands-on training programs. These "Digital learning" programs enhance the overall learning program and strengthen and deepen the student knowledge. We are using 3D models of real systems as well as making animations and simulations. Labtech's department in this area is on the leading edge of virtual digital TVT learning and this area holds the promise to change the face of TVET for the future.



- 8. Complete Lab or Workshop Supply:** Labtech provides a service to our key customers for the supply of complete Labs or workshops. We can provide these Labs as a turnkey supplier and be responsible for the recommendations of equipment lists, provision of training systems, provision of supporting tools and equipment, revision of curriculum, training of teachers, apprenticeship programs for teachers, distribution of the equipment, installation and trial run of the workshops and labs. We are able to do this on a very competitive basis.

**Up-to-date Product Line with latest Technology and Design:** From the beginning Labtech has taken the approach to continually update its products as they are produced. We have a program of continuous improvement built into the production process whereby input from our users is fed back into the system to improve design and function. This has resulted in Labtech having one of the newest and freshest product lines available. We do not design a system once and then produce that product for 10 years but we continue to make incremental improvements in design and technology along the way over the years. In this way, the product line is continually developing and remains current. Labtech can afford to do this where other companies cannot, as our R&D costs are much lower. We have a saying which sums up our approach: "at Labtech innovation is routine". Labtech is one of the very few educational companies in the world that has achieved ISO certification for educational research and development of training systems.

**Labtech's Systems Approach for a Complete Training Path:** Each of Labtech's product areas are developed as a "systems approach". What this means is that many of our products or programs fit together in order to provide a total and comprehensive solution to clients training needs. In other words we do not merely have a collection of individual products but the products and their design are coordinated so they fit together wherever possible. So, in essence, the whole is greater than the sum of its parts. The products are designed to be modular and progressive. We can start at the very beginning with the basics and progress upwards module by module until the desired skill level is attained. Modular systems allow them to be tailored to special training requirements.

**International Curriculum Benchmarks:** When we design Labtech learning pathways we always benchmark our systems against the best curriculum standards that we can find from Industry, International associations and selected countries that have comprehensive training schemes. This keeps our learning pathways current and relevant to today's industries all over the world.

## **Manufacturing Capabilities**

**Expertise in Production and Research and Development:** Labtech has design and manufacturing capabilities in electronics, electrical systems, mechanical systems, mechanical assembly, steel fabrication, automotive systems, electrical systems, HVAC systems, electronic printed circuit board (PCB) manufacturing, machining and engineering, welding (MIG, TIG, arc, gas), carpentry, painting, silk-screening, artwork and design, integration of complex electrical and mechanical systems. These capabilities are always being updated and expanded wherever required. The true strength of our capabilities is readily apparent in products that require multiple disciplines or technologies in order to make complete systems. For example an ABS trainer or Electronic Fuel Injection Trainer requires experience in automotive applications for design as well as electronics and electrical systems expertise. In the fabrication process you need welding of steel structures, precision machining, plastic forming, electronics assembly, Printed Circuit Board production, electrical wiring, mechanical assembly, painting, silk-screening, graphics and artwork production. **These are supported by our Research and Development which enable us to customize our products to the client's needs** whereas most other educational companies do not have ability in as Labtech has.



## Certification of Labtech

Our capabilities in long lines of production and research and development have been certified to ISO 9001:2008. Very few worldwide manufacture for education training equipment has certified their full cycle process, especially the Research and Development (R n D). Labtech.

Labtech has been ISO certified and audited by TUV Rhein for:

1. Research, Analysis, Design and Development of Educational Training Systems, Programs and Products;
2. Manufacturing of Educational Training Systems and Products to International Standards;
3. Production (Manufacturing Processes);
4. Material Requirements Planning (MRP);
5. Quality Control and Assurance;
6. International Sales & Marketing;
7. Project Implementation and Consulting Services; and
8. Training Programs and Customer Services.

Labtech is also certified for :

ISO 14001:2004 Environmental Management Standards

OHSAS 18001:2007 Occupational Health and Safety

## Clients of Labtech

**International Agent and Sales Network:** Labtech products have been exported to 75 countries around the world. We have a well-established agent network that includes most of the key newly or rapidly industrializing nations in the world. Our customers are located in Asia, Middle East, Africa and Latin America. Also over the past ten years, Labtech has been exporting our products to Europe and North America.





## Clients Services Provided by Labtech

At our core, Labtech is a manufacturer of technical training systems for educational schools. Our services revolve around the goal of providing the latest equipment for technology education to our customers and helping them to make the best use of it. Our Clients are mostly private and government schools which use our systems to give training for students ranging from high schools up through University and adults who have already entered the work force.

For our customers, we provide a full range of services to assist them in planning, equipping their schools, providing training for teachers, installation and after sales service. Often our contracts combine many of these elements in order to successfully introduce new technologies or set up of complete laboratories or schools. A summary of our basic services is shown below:

1. **Provision of Technical Training Systems:** Labtech produces hundreds of ready to use training systems that can be selected to meet the needs of a wide range of customers and schools. Our modular systems approach allows for a great deal of flexibility in training arrangements so as to be able to meet almost any requirement.
2. **Manufacture of Custom Training Systems:** Labtech is willing in a number of cases to make special or custom training systems to specific customer requirements. This often is required in specialized industrial training situations where training must be given to match existing equipment and specific brands/models of industrial systems. We have done a number of special systems for example in Marine, Aircraft, Audio/Visual technology, Automation and Automotive training areas.
3. **Provision of Complete Laboratories and Workshops:** In order to provide schools with a total solution to training, we are able to provide complete labs and workshops for our key customers. This would include a complete range of training systems and matching support tools and equipment. This is often a very effective solution as Labtech can ensure that all of the items can work together effectively to provide a well-rounded and integrated training lab. Labtech can work to customers' requirements and determine syllabus and curriculum requirements.
4. **Planning Assistance:** Labtech can assist customers in planning their new labs and schools. We can examine requirements and suggest matching training systems, generate equipment lists, equipment specifications. This will aid the schools and projects in maximizing the performance of their new labs.
5. **Consulting for Training Program Design:** For customers that require a large amount of work to get their new labs organized Labtech is able to provide consulting service (under contract) to review and develop new syllabus, curriculum, training materials prior to the provision of equipment and set up of the labs.
6. **Customer Training:** Labtech provides in many cases basic training for our customers or teachers who have purchased our equipment. This can be done at our factory or by special arrangement at the client's school or a special associated training center. For customers requiring extensive training and teacher upgrading, Labtech is able to organize in cooperation with our partner schools medium to long term training programs.
7. **Distribution and Installation:** In larger contracts, Labtech is able to take on the responsibility of distribution to the school sites and to send in an installation team to unpack, inspect and install the equipment as well as to give a familiarization on its use.
8. **Sales and Contracts:** Clients can contract with Labtech or its sales representatives. Please contact us for your nearest representative. Contracts can be entered into via direct quotation and negotiation or we are able to participate on International Competitive Bidding.
9. **Pilot Programs for new Training Systems Development:** Labtech is willing in special cases to work together with schools or Ministries to establish new types of training programs. This would often be done in the form of a contract for a Pilot Program for introducing a new or course. Syllabus and Curriculum would be developed together with new teaching materials and teaching hardware and systems. A limited number of schools or labs would be set up and the results evaluated. After evaluation and fine-tuning the program and be introduced to other schools on a wider scale.
10. **School Cooperation Programs:** In strategic technologies and geographic locations, Labtech can support a limited number of school cooperation programs which are described in our section on "School Interaction Program". Often these relationships would start with the need to do work on specific projects.



## School Interaction Program

1. **School Cooperation Program:** Labtech stays in tune with the educational market and its development through our school cooperation program. Labtech has links to a number key educational institutes mostly in Indonesia, Singapore, Philippines, Malaysia and Australia. New programs can be added to countries developing sufficient interest. The participating schools in these programs are generally teaching training institutes which often have a leading role in educational development, curriculum design and educational equipment determination in their countries. The main activities of the program includes:  
Labtech conducts training or apprenticeship programs for their teachers. In many cases their teachers gain valuable industrial experience which they may lack. This builds long term relationships with many teachers and administrative staff who can become key people in the future
  - a. Labtech and the school staff engage in joint research and development programs for new training systems.
  - b. Their schools can serve as a Training Center for our equipment to our customers for our contracts within the country.
  - c. Their schools can be a resource for service and maintenance services in order to troubleshoot and solve field problems at client schools. Their staff can assist and participate in installation programs our clients within the country.
  - d. Their service ensures that our training systems can fit in and support the development of the educational program within their country. These links give our customers a kind of satisfaction or guarantee that our systems will work for them.
2. **Student Apprenticeship Program:** Labtech also runs an apprenticeship program for a number of schools that are relatively close by to our location in S. E. Asia. This program has several purposes.
  - a. It provides a source of recruitment from which we can draw upon when recruiting new long-term employees.
  - b. It gives the Ministry of Education and the Ministry of Manpower great satisfaction with Labtech and builds up and enhances our reputation as a willing partner to assist in educational development. We serve as a good model in order to encourage other industries to follow our lead and set up similar programs. Therefore, many government agencies and Ministries view Labtech as a bridge between education and industry.
  - c. Through this process, Labtech and its staff gain experience and knowledge of the students from their work experience with us. In other words, we come to know our customer, as the students are the ones who use our training equipment. As a result, we gain a better understanding of the student, his capabilities and his needs. This assists us in an indirect but very important way in the design of our equipment and in discussions with the various schools and educational providers.



# VISUAL DOCUMENTATION

The followings are some visual documentations of our services to education entities located in asia and middle east countries.

## CESS EXHIBITION INDONESIA 2017

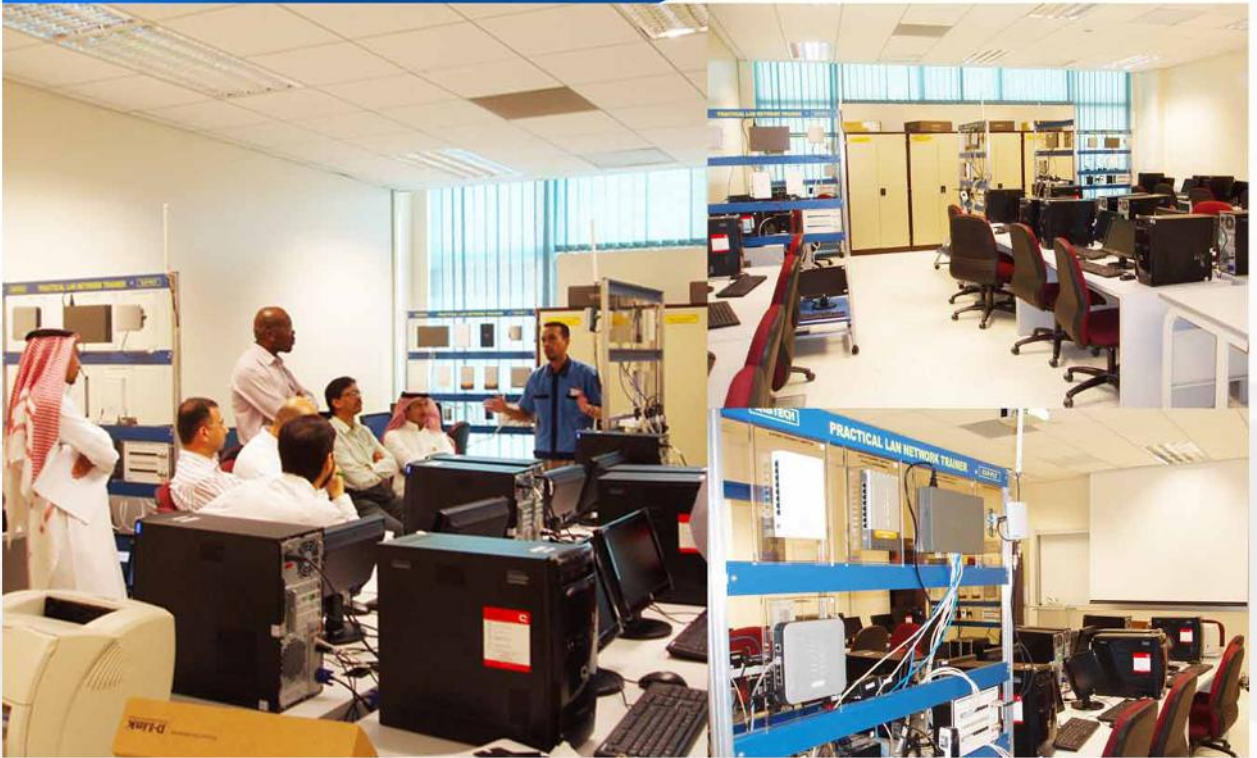


## CESS EXHIBITION DUBAI 2018





## SAUDI LABS - NETWORK+



## LABTECH Computer Lab - Kuwait





## LABTECH Electrical Lab - Oman



## LABTECH HVAC Lab - Egypt

