Modular Training System

A Totally NEW Concept in Engineering Training

SHORT FORM BROCHURE

MECHATRONICS

The all-NEW, low-cost **Modular Training System** (**MTS**), from **MECHATRONICS**, is a totally unique concept in Multi-skilling technology, utilising an extensive range of industrial drives and control methods. The **MTS** consists of a range of differing modules, all of which can be used independently, or alternatively can be connected together, as 2 or more modules, to form part or complete integrated systems, simulating a full production process.

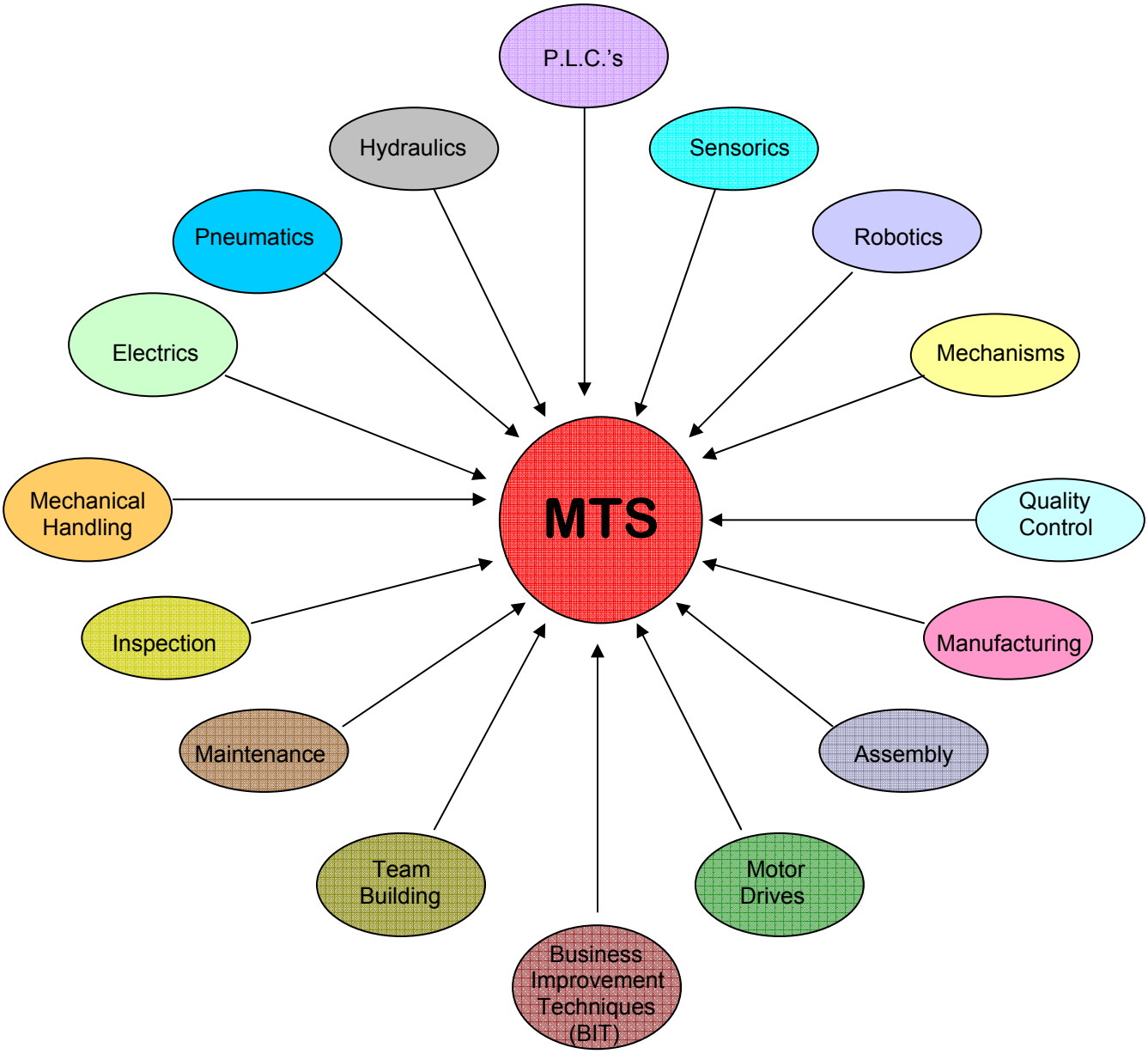
As with other products within our range the **Modular Training System** has been developed at the specific request of existing clients. These clients felt that the systems already available did not meet their needs for a number of reasons and therefore it needed someone to look at their requirements with some novel and fresh ideas and concepts, to develop an innovative solution.

Specific requirements of the system that had been identified by Colleges included:-

- that the system (or parts thereof) should be low-cost and affordable, including add-on modules or spare parts for future expansion, whereas existing systems are always extremely expensive for what they offer
- systems must be widely used and fully utilised, to offer best value for money (most existing systems are very under utilised or never used and therefore offer no value for money whatsoever)
- complete system must be compact and space efficient, allowing classrooms to be mutli-tasked, as opposed to dedicated solely to an FMS / CIM (existing FMS / CIM systems take up a complete dedicated lab or classroom at great expense)
- a range of modules available that cover different technologies
- modularity, so that different student groups can be taught different subjects by different lecturers and possibly all at the same time in different rooms / labs (existing systems do not lend themselves to this as often each section just repeats the same technologies used), but at the same time still allowing for complete systems to be constructed
- quick and easy to reconfigure for different student groups / levels (present systems are generally not suitable for reconfiguration)
- simple to use (existing systems are over complex for what they achieve and are therefore under utilised)
- ability to provide successful training in short durations, e.g. what can be achieved in a typical 1 – 2 hour lesson (with existing systems nothing can be achieved in this time scale and then students loose interest and get bored)
- expandability, where future needs dictate the requirement for additional module/s to create a larger system
- systems / modules should also be very robustly manufactured (existing systems are very flimsy in their construction and therefore easily damaged if used by students
- good build quality essential (existing systems are often of very poor build quality, which reflects badly on any centre offering quality training)
- systems / modules should be complete and ready for use upon delivery, so that there is no installation, commissioning and development time required (some existing systems have not been ready to run two years after supply)
- systems / modules should be fully commissioned upon delivery (existing systems often take an extremely long time to get commissioned)
- systems / modules should be supplied with all relevant documentation, this documentation should be licensed for copying to issue to students (other systems are often supplied with either very poor documentation or no documentation at all)
- college staff trained on their own system, so as to be confident in using it (existing systems are generally over complex with little or no staff training offered and therefore they never get used)

- systems must be safe in use, fitted with guards etc.. (some existing systems have no guards and require students to work 'live' when programming the P.L.C.'s – contrary to Health and Safety regulations, as well as being very dangerous)
- ongoing '**After Sales**' support (present systems are very poorly supported), our systems are covered by the **MECHATRONICS** full 5 year warranty

With the **MECHATRONICS Modular Training System** each module utilises a selection of different technologies and can therefore be used for a variety of different curricula including:-



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Students from craft right through to technician, as well as mature employed craftsmen and technicians will all benefit from training on the **MTS** due to simple functions and operations are the basis of each module but by combining modules into an integrated system the complexity can be increased, as and when required. Each module has its own integral on-board P.L.C. (except for the robot module which has its own industrial controller), all that is required to power the system is a compressed air supply and 230V 50Hz single-phase electrical supply.

All of the modules within the **MTS** have been designed so that all P.L.C. programming, monitoring etc.. can be carried out without accessing the control panel (other systems on the market require that you work 'live' inside a cabinet to programme or monitor the P.L.C., this is both dangerous and in contravention of Health and Safety regulations). For safety purposes the modules are supplied complete with clear (see-through) guards, so that the training system can be operated with safety as a paramount consideration, whilst still being able to see the equipment in operation (again some systems on the market are not guarded and are therefore dangerous in use and contravene Health and Safety regulations).

Each module is supplied completely assembled, plumbed, wired, and tested, ready for use, they are built onto an extruded aluminium profile trolley, fitted with 4 castors (2 lockable), allowing mobility between different training locations. Included with each module are the required power, control, connection and interlinking cables, along with programming software, very extensive manuals and exercises.

There are a range of **MECHATRONICS MTS** modules available, which are being constantly expanded, to cover an ever-widening range of technologies. Each module can be used as a stand-alone unit or combined with others to create a low-cost, yet simple to use system.

As the modules are available separately, it is possible to purchase them as and when budgets allow, or requirements change, the system can then be built up, over a period of time, it is not essential to spend a fortune on day one for a 'full blown' system that is overpowering to staff as well as students and is therefore little (or never) used, it also means the system will not become outdated or redundant, being expandable to meet your future requirements.

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