

BRING US YOUR TECHNICAL CHALLENGE

EN 60945  
EN 60529  
EN 60950  
EN 61000  
EN 60182  
EN 60068  
EN 50121  
EN 60945  
EN 60950  
EN 61000  
EN 60068  
EN 40182  
EN 50121  
EN 61000

RoHS  
WEEE

RoHS  
WEEE

EMC  
SHOCK

VIBRATION

THERMAL

IP RATING

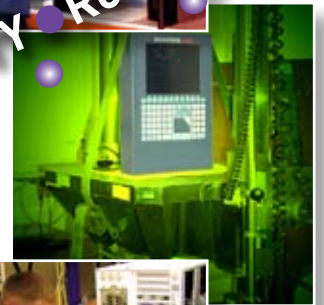
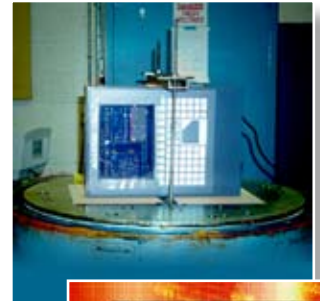
SAFETY

RoHS  
WEEE

RoHS  
WEEE

RoHS  
WEEE

CE



# Certification & Compliance Capabilities

**CAPTEC**

Tried, Tested and Trusted

# Certification & Compliance Capabilities

## Compliance with standards and directives

In an increasingly complex and sophisticated world, professional applications need to conform to more and more demanding standards of compliance as well as legal directives. Different applications are subject to varying frameworks of compliance requirements whether in medical, defence, transport or any other specialist fields. Where applications are business, mission or safety critical it is an essential part of the validation and verification process to achieve independent certification of conformance.



## Understanding standards

### NETWORK OF RELATIONSHIPS

Whilst standards are continuously evolving and expanding, we understand a wide diversity of these (please refer to standards table) and will most likely already have worked to achieve these for existing applications.



Where we may not have prior experience with a particular certification requirement, we draw on our depth of engineering experience to understand and apply new standards. We also have extensive working relationships with established and accredited test houses, access to subject experts in Universities and through Knowledge Transfer Networks.



We are therefore able to interpret new standards, devise appropriate testplans, apply them, to test and certify and validate the solutions we engineer

## Challenging applications

With applications increasingly pushing computing equipment further and further into hostile environments, the ability to engineer safe and reliable solutions whilst protecting against: ingress of fluids and dust, shock and vibration and a multitude of others is a broadening area of Captec's capability and expertise.



## Evolving technologies

As clock frequencies race higher and higher, wavelengths get shorter, consequently radiating from far more apertures and interconnecting interfaces. EMC emission and susceptibility are increasingly thorny challenges for computing manufacturers. Complying with regulatory standards is difficult enough, but at Captec we are able to take this much further having already designed computing equipment to meet far more stringent requirements, amongst them medical, defence, security and transport standards.



**noun - Date: 1947** : a mark or device used to identify a product or service that has been certified to conform to a particular set of standards

EMC • SHOCK • VIBRATION  
• THERMAL • IP RATING  
SAFETY • WEEE • ROHS



## Totally green equipment

At Captec we take a holistic approach to compliance, not only considering the customer's compliance and certification requirements, but extend this to encompass Environmental Compliance as a given.

Protection of the environment, recycling and corporate social responsibility towards the Environment are central to Captec's culture and underpinned by our Environmental Policy overseen by our ISO-14001 certification. We believe in supplying "totally green equipment" for all of our solutions.



## Managing compliance certification

Our Compliance engineers have extensive experience in working with Test Houses to totally manage the entire certification process. From the test plan, all the way through testing, including any corrective actions that may be required.



## WEEE Compliance

### **WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT**

We provide a flexible approach to WEEE compliance, either organising recycling via our compliance scheme, or where our computers are integrated into our customers' equipment, those customers often choose to deal with WEEE disposal themselves. Either way, our ISO14001 procedures ensure that all our computers and equipment are re-used or recycled in an environmentally responsible way, once they reach the end of their useful life.



## RoHS Compliance

### **RESTRICTION OF THE USE OF HAZARDOUS SUBSTANCES**

All Captec designed products are fully compliant with the RoHS Regulations, with all 6 of the listed substances within specified limits. Our COTS+ products are compliant, unless agreed in advance with customers who have exempt applications or a requirement for spares for older equipment. Our ISO14001 procedures ensure we maintain compliance with this legislation.



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## British/European Standards

<b>BS EN ISO 9001:2000</b>	Quality management systems
<b>BS EN 50121</b>	Railway applications – Electromagnetic Compatibility
<b>BS EN 50126</b>	Railway applications- The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS)
<b>EN 50155</b>	Railway Applications – Electronic Equipment used on Rolling Stock
<b>BS 7671</b>	IEE Wiring Regulations 16th Edition
<b>BS EN 60529</b>	Degrees of Protection Provided by Enclosures (IP Code)
<b>BS EN 61000</b>	Electromagnetic Compatibility (EMC) – Part 3: Limits Section 2: Limits for Harmonic Current Emissions
<b>BS EN 61000</b>	Electromagnetic Compatibility (EMC) – Part 3: Limits Section 3: Limitation of Voltage Fluctuations and Flicker
<b>BS EN 60068</b>	Environmental Testing
<b>BS EN 61373</b>	Railway Applications – Rolling stock equipment – Shock and vibration tests
<b>BS EN 50155</b>	Railway Applications – Electronic equipment used on rolling stock
<b>BS EN 60950</b>	Information technology equipment – Safety – General requirements
<b>BS EN 61000-4-3</b>	Testing and measurement techniques. Radiated, radio frequency,electromagnetic field immunity test
<b>BS EN 61000-4-5</b>	Electromagnetic compatibility (EMC). Testing and measurement techniques. Surge immunity test
<b>BS EN 61000-6-2</b>	Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments
<b>BS EN 61000-6-3</b>	Generic standards. Emission standard for residential, commercial and light-industrial environments
<b>BS EN 61000-6-4</b>	Electromagnetic Compatibility (EMC) – Part 6-4: Emission standard for industrial environments
<b>BS EN 61000-4-4</b>	Testing and measurement techniques. Electrical fast transient/burst immunity test
<b>BS EN 61000-4-11</b>	Testing and measurement techniques. Voltage dips, shortinterruptions and voltage variations immunity tests
<b>BS EN 61000-4-16</b>	Electromagnetic Compatibility (EMC) – Testing and measurement techniques. Test for Immunity to Conducted, CM Disturbances in the frequency range 0-150 kHz.
<b>LSZH</b>	Low Smoke Zero Halogen Emissions
<b>Marine IEC-60945 IEC-60092</b>	Maritime navigation and radio communications equipment and systems. Environmental & Electrical Installations in Ships, Part 504 Special Features - Control & Instrumentation, and technological limitations of computer equipment

### London Underground Engineering Standards

<b>E 1027 A3</b>	Electromagnetic compatibility (EMC)
<b>E1042 A6</b>	Fire Safety Performance of Materials
<b>M 1027 A2</b>	Manual of EMC Best Practice

### Vehicles

<b>E-Mark</b>	European mark certifying that equipment is approved for in vehicle applications
<b>VIDG 5</b>	PITO - UK Police Information Technology Organisation Communications Directorate. Automotive & Equipment Section, certification for use in Police vehicles
<b>A&amp;ES5</b>	Automotive & Equipment Section, certification for use in emergency services vehicles

Tried, tested and Trusted

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We've got  
**the edge**  
IN INDUSTRIAL COMPUTERS

**OUR PURPOSE** – To be the recognised global leader in the design and manufacture of reliable and affordable industrial computers fit for demanding environments.

**OUR VISION** – A world where computers can operate reliably in any environment for the benefit of mankind.



INVESTORS IN PEOPLE



**Strenuis Ardua Cedunt** - Difficult things fall to the strong

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