

Embedded Software Business Unit

Oak Systems Pvt Ltd (*Oaksys*) is a specialist Software Services Company headquartered in Bengaluru. Oaksys is the brainchild of software technocrats with proven track record of managing & executing global software assignments to the satisfaction of clients.

Oaksys understands and appreciates the need of clients to have better, faster and cost effective solutions to manage their businesses. We bring about right mix of business process knowledge, technical expertise and cutting edge technology to deliver flexible and scalable software system to suit current and future requirements through inherent quality culture and process maturity.

Our service capabilities delivered through our “onsite-offshore” model is aimed at helping companies lower costs, improve productivity and increase customer satisfaction. In order to achieve this, we have established a state-of-the-art software facility in Bengaluru (India) to cater to the global customers.

In order to provide better customer focus, *Oaksys* has created a unique **Embedded Software Business Unit** (ESBU). Under ESBU, we offer our specialist software development, V&V and Testing services around number of international standards and models (such as DO178C, IEEE12207, ISO26262, IEC61508, 21 CFR 11, HIPAA) with our domain expertise and technical skills. We are very well experienced in **Avionics, Automotive, Defense, Medical and Pharma domains**. We also cover services in *Rail, Space, Nuclear, Networking* and such other domains.

Our Vision

“Doing the right thing, in the right way, at the right time, within the right budget ... the hallmark of Oak Systems”

Oaksys aims to provide unrivaled value to its customers by Quality, competitive and cost effective prices and high standards of service, and ensure that our customers have the service possible.

Service Delivery Capabilities

Through its expertise in concurrent project execution and remote project management, *Oaksys* delivers services collaboratively while working with geographically dispersed teams located in various time zones.

Oaksys specializes in **DO178C/B, IEEE 12207, ISO26262, IEC61508, 21 CFR 11** and such other models, guidelines and standards. The safety critical/mission critical requirements are clearly understood under these standards and the software is validated at the appropriate level of criticality.

Our service offerings cover the full lifecycle software development, Verification & Testing activities and variety of SDLC models. Our portfolio of services spans across Requirement analysis, design & modeling, coding and development, Software Testing, IV&V and Automated testing. As part of these activities, number of tools (both COTS and in house) such as DOORS, Rhapsody, LDRA, RTRT, gCov, UFT, Selenium etc. are used based on the project requirements.

People

Attitude does matter. We have a definite positive attitude towards development, V&V and testing. All our engineers are hard-core professionals with a defined career path in their chosen fields.

Processes

We are an **AS9100D** and **ISO 9001:2015** certified company. Our processes are approved by **CEMILAC** (Center for Military Airworthiness and Certification, a DRDO lab, Govt of India). We follow software processes that are tailored from **CMMi, DO178C/B** and **IEEE** standards. We have well-designed customer-focused processes covering the following aspects.

Tools

Oaksys staffers have extensive familiarity in the following environments –

• Unix, Linux, Windows, pSOS, VxWorks
• OS internals, RTOS, TCP/IP, WLAN, ATM
• LDRA, MATLAB, Logiscope, RTRT, PRQA
• DOORS, Rational Rose, Requisite Pro, UML
• Insure++, Jtest, JUnit, Purify, gCov/LCov
• UFT, QTP, Silk, Selenium, RFT, Ranorex
• C#/C++/C, VC++, Java, Ada, VB
• TestCast, XMLSimulator, SoapUI, Tessa
• PVCS, ClearCase, VSS, SVN, Perforce, CVS
• QC, BugZilla, Testlink, Rhapsody, LabView
• Python, Ruby, ASP, HTML, Perl, Tcl/Tk
• MIL-1553B, ARINC, CAN, ...
• PowerPC, TI, Intel, ..
• VisualDSP, Tornado, VisualStudio, CodeComposer, CodeWarrior, ..

Workshop on DO-178B
 Jointly with CEMILAC, we have designed a training on DO-178B and have delivered it multiple times to several organisations. ... Enquiries welcome.

Our experience

Our experience (not an exhaustive list) in executing Software projects under various international standards is outlined below-

- IV & V and Testing of Navigation System, Landing Gear Controller system of UAV as per DO178B Level ‘A’
- IV&V and Testing of Display Units of Helicopters
- Development of TestRig for Flight Control System
- Testing of subsystems of Medical devices – Cardio vascular, Ultrasound, X-Ray devices
- Testing of subsystems of civilian Aircraft Systems as per DO-178B under LDRA test harness
- Formal modeling of subsystems of a Fly-by-Wire aircraft

- IV&V of Digital Engine Control Unit (DECU) as per IEEE12207 / IEEE1012 standards
- Testing and Test Automation of analytical software products that provide proactive intelligence on care, cost and compliance quality for health care industry
- IV&V and Testing of Radar Systems as per DO-178B using LDRA/RTRT toolsets and homegrown test rigs.
- IV&V of Flight Control System (FCS), MC, DP etc.
- IV&V of Flight Data Recorder (FDR)
- Unit Test Automation using RTRT for Radar System Software involving 100% code coverage, unit tests to check for compliance to stringent DO178B guidelines
- Model based development and testing using DOORS, Rhapsody, LDRA and Test Conductor for CMS module of a Tactical Control System
- Testing of multiple Industrial Automation software systems as per IEC61508 and UL1998 standards
- Module & integration testing of Transponder software as per DO178C

**Embedded Software Business Unit
 Oak Systems Pvt Ltd**

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An interesting read for all Software Testing Enthusiasts

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