Software Engineering in the 21st Century - a view from the trenches

The software industry has reverted back to normality after the dotcom era, but certain aspects appear irrevocably changed. Sometimes veteran programmers and commercial managers have complained in the past that software engineering courses taught by the universities are overly theoretical, impractical or irrelevant. At the start of the 21st century, is this long standing prejudice still true, or have academia and commercial practice at last caught up with each other - or are there now new pragmatic changes in the industry at the start of the 21st century which academia has yet to realise?

Our company, IONA, employs software engineers in four major locations across the planet, with employees of some twenty-five nationalities. Our core competence is the development of software products, which are sold and used in volume by our customers worldwide, and deployed in many varied industries. Apart from the typical software engineering management issues such as requirements capture, product version management, software operating environment configurations, testing, and release management, there is of course the commercial pressure of developing products to compete aggressively and agilely among some of the world's best software companies on the world stage. But in new century, there may be profound trends emerging which will change the old software engineering activity of the 20th century forever.

Dr. Christopher J. Horn is a co-founder of IONA Technologies (established 1991). He was the initial developer of Orbix® and held the joint offices of IONA's President, Chief Executive Officer and Chairman of the Board from IONA's inception until May 2000. Dr Horn is currently the Chairman of the Board of IONA. Dr Horn was an electronics graduate in 1978, and received his PhD in Computer Science in 1983. From 1984 until 1994, he was a lecturer in the Computer Science Department at Trinity College, Dublin, where he was involved in many pan-European IT research projects involving distributed computing. He also worked in Brussels, Belgium for the European Commission, and was an integral part of the ten-year "Esprit" program designed to improve the continent's technology industry.

Dr. Horn is a member of a number of company boards and advisory groups, including Sepro, CR2, Delta Partners, the AIB technology fund and HotOrigin. He is chairman of the Ireland China Association and of the Irish Management Institute, a Director of Science Foundation Ireland, and a member of the Board of Trinity College Dublin. He chaired the "Expert Group on Future Skills", part of Ireland's Educational Technology Investment Fund from 1998 to 1999. In 2001 he received an honorary Doctor of Science from Trinity College Dublin and became an honorary Fellow of the Institution of Engineers of Ireland. Dr Horn also received the Gold Medal for Industry from the Industry and Commerce Committee of the Royal Dublin Society in the same year. Dr Horn is involved with a number of charities, and serves as Chairman of the Irish Brain Research Foundation, of the UNICEF Ireland Committee, and of the Community Foundation for Ireland.