

Figure 7 From left: - piping engineer, area manager, and methodology manager.

The three workplaces shown in Figure 7 were generated from the refined piping application and workplace models. The AKA supports novel design principles, self-adaptive methods, and enables agile spontaneous collaboration. The objectives of visual collaboration and coordination to improve work planning, monitoring and execution are achieved using IRTV modelling methodology to capture rich workspace contexts, modelling roles, tasks, views and contents of information sources.

## 3.3 Lessons learned

Practical approaches, methods, competence and working environments are not given priority by the majority of researchers in ICT and engineering disciplines. Conceptual design of adaptive products and autonomous processes for sustainable life-cycles, are just two examples of industrial application areas where current application systems development is not able to provide satisfactory solutions. Public sectors, military operations, police investigations and disaster management have similar strong demands for inventing new ways of working with computers and digital technologies.

To meet these and other challenges designers, architects and users must adopt an agile approach to emergent Enterprise Architecture (eEA)<sup>i</sup> and operational solutions development enabling human actors to gradually unveil and share knowledge about events and situations. Architects, designers and developers must be able to respond to the growing variety, emergence and complexity in markets, customer demands, economies, strategies, competences and capabilities. Agile approaches, replicable models of methods and applications, adaptable services, and autonomous architecture-driven workplaces must be made available to SMEs without requiring heavy investments in systems development, ICT hardware and software, and with no dependencies on ICT vendors.