

“I firmly believe that one of the major reasons for our success has been the expertise and professionalism that Tessella has brought to the project.”

Dr Laurent Chapon
Head of Crystallography
ISIS, Rutherford
Appleton Laboratory

Informatics for Science Research

Scientific research projects are increasingly expensive and generate vast amounts of data, requiring sophisticated analysis and management. The lion’s share of capital budgets are usually consumed by the construction of new facilities and equipment, while development of informatics systems is often given a low priority. Projects will deliver greater value if the same professional expertise is brought to the software development as goes into creating the project’s central hardware.

Tessella has a long history of working for international research organizations and academic institutions in Europe and the US, and has developed software engineering tactics and project management strategies that are well-suited to the challenges of science research and bring the benefits of commercial-strength software solutions.

Why does this matter?

Robust, efficient informatics systems are required to ensure that valuable data is not lost and can be processed quickly to provide feedback into the investigation. Failure to do so can waste many valuable hours of experimental time.

High quality software systems developed with usability, functionality, and maintainability in mind allow scientists to focus on their science and not on getting software to work. Consistent delivery of data across large, possibly distributed, teams of scientists is another goal for effective informatics systems.

The duration of large science research projects often far exceeds the tenure of individual scientists, so systems must be supportable and well-documented so that they continue to provide value to the project for its whole life.

Why is this difficult?

Science projects may require IT performance that pushes the boundaries of current capabilities. Consider, for example, the quantity of information generated by a particle physics experiment in a very short period of time or the computational requirements of a climate model.

Other projects may require a deep understanding of the science itself. For example, implementing a computational model, capturing data, providing data analysis tools, and automating experimental instruments may require knowledge of the science behind the IT project.



Finally, by their very nature, science projects are often working in uncharted territories. This means that the informatics project team must be able to adapt to a fast moving, uncertain and complex project environment.

Why use Tessella?

Tessella has a long history of working for international research organizations and academic institutions delivering a range of services including consultancy, application development and system integration, support and maintenance, and team augmentation. Major research organizations using our services include: JET fusion research laboratory at Culham (UKAEA), Rutherford Appleton Laboratory, Diamond Light Source, European Space Agency, IAEA in Japan, ITER in France, the UK Forensic Science Service, and the UK Environment Agency.

What benefits do we bring?

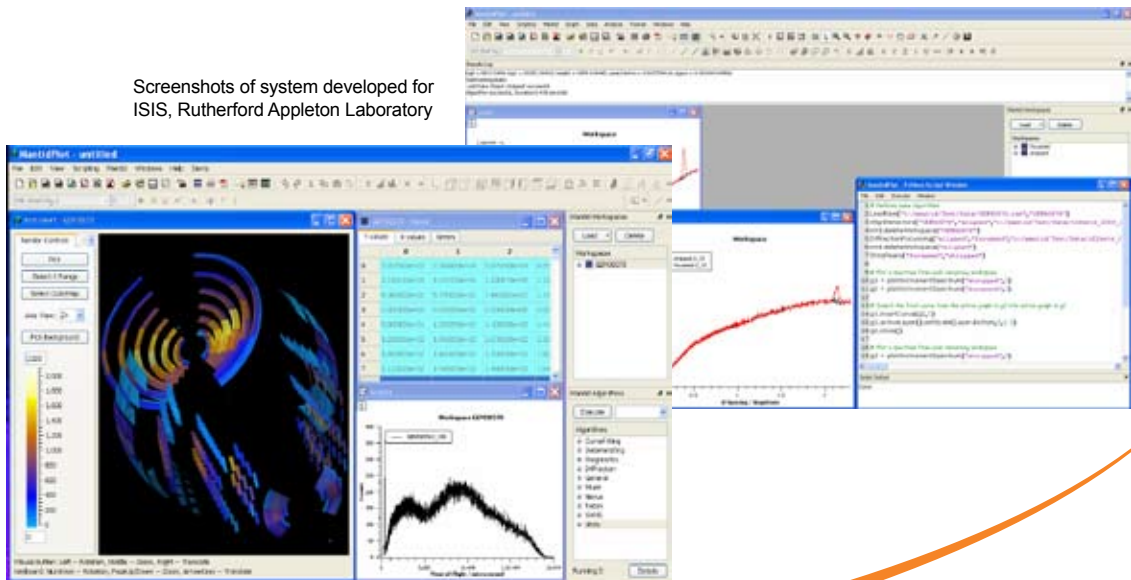
The majority of our staff come from scientific research backgrounds and are, therefore, very well-placed to understand the needs of the research community. However, they are also fully-trained in professional software engineering and project management techniques. We are all experienced in delivering technology and consulting services in a science research environment. With Tessella, time is not lost explaining the nature of the science environment.

Tessella's experience of science research projects means that we have developed software engineering tactics and techniques as well as project management strategies that are well suited to the challenges of science research.

Next steps

Successful science projects require demanding information systems to be designed, implemented and maintained on time and within budget. Contact Tessella to examine the information systems support within your science projects and the benefits we can bring to your organization.

Screenshots of system developed for ISIS, Rutherford Appleton Laboratory



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