



Strategic planning for technology R&D

Planning for the future involves challenges common to all technology businesses: how to value technologies, how to choose the best project schedule, and how to determine the cost and risk implications of particular projects. Tessella can help with developing the processes and tools that mean that you can make the right decisions about your R&D portfolio.

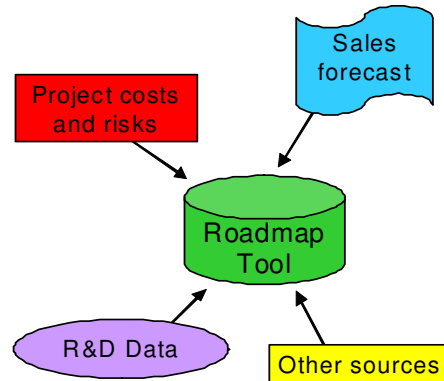
Tessella's many years of experience in the space and defence sectors and detailed knowledge of roadmap analysis methods make us ideally placed to provide solutions for technology management problems.

We can advise you on developing the processes required for technology management. We can upgrade your existing systems to synchronise and collate data throughout your business, and add extra analysis functionality.

Our powerful roadmapping software will allow you to visualise project structures and schedules, analyse the overall costs and benefits of different programs, and prioritise development tasks in order to optimize your development strategies.

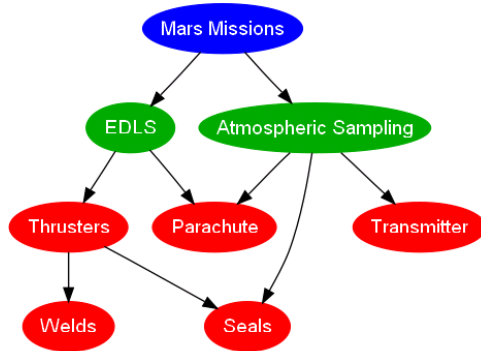
Collating data

Long-term strategy planning requires access to information from different sources throughout your company, such as cost, risk, potential sales value and other benefits. A roadmap tool can link together all the different information, so that users can query any aspect of a project. Tessella can link up all your existing systems so that you can easily access data from different applications, and make meaningful comparisons between data from databases with different heritages.

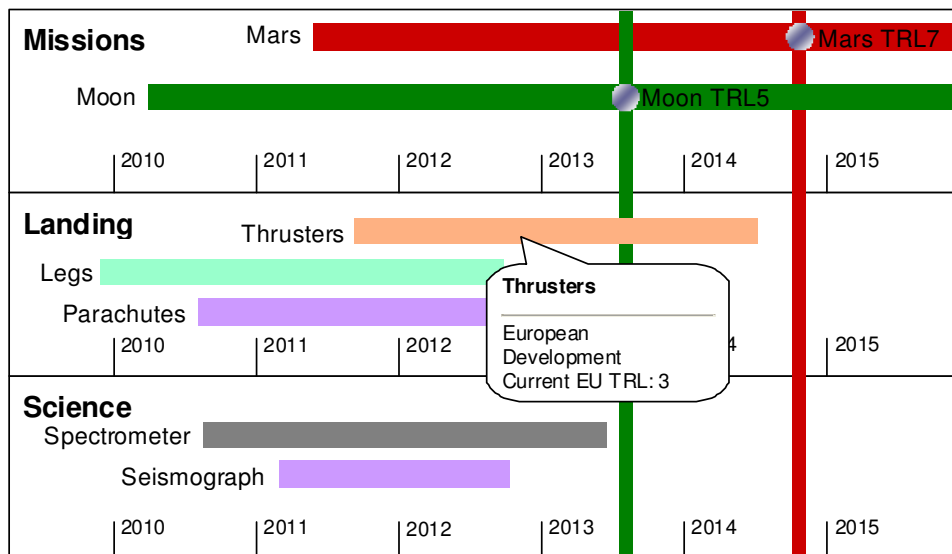


Visualization

Planning is easier if you can see the necessary information in a few diagrams. Roadmap networks show the dependencies of different projects, and you can access data relating to each of the nodes in the network diagram. The information is laid out in front of you, making it easier to interpret and to spot possible problems with the structure.

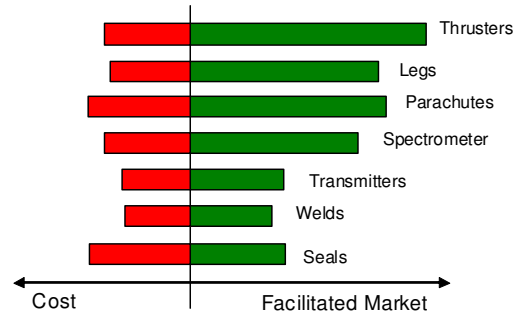


Timelines show you project schedules and milestones. You can use interactive visualizations to edit project schedules graphically, letting you try out changes and see the consequences they would have.



Quantifying technology value

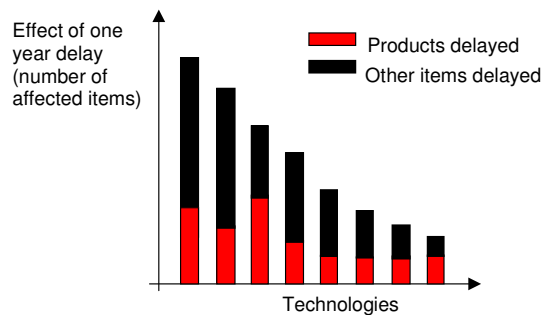
Different technologies can provide different levels of benefits in terms of sales value, innovation potential, or autonomy from other suppliers. Tessella's tools can help you to quantify the value of individual technologies, taking into account the number of dependent projects and the costs and risks associated with each technology. A technology that contributes to a higher number of products may have a higher value; similarly, the value of a product that depends on many technologies will be divided between those technologies.



Understanding dependencies and sensitivities

Sensitivity analysis can identify which developments are critical, and determine the effect of delays on different projects. Roadmap tools allow you to see more clearly how the risk of failure of a technology affects dependent projects, even for complex project structures with many interdependencies.

Measures of robustness for projects can take into account the additional risks that stem from collaborating with partners or purchasing from outside companies.



Optimizing strategies

Roadmap tools allow you to analyse the benefits provided by a particular strategy, and its risks and sensitivity to delays. They also allow you to try out many different potential strategies in order to find the best one. Automated optimizers can calculate the best strategy to satisfy a set of criteria.

Tessella's offering

Tessella can provide a wide range of services to help improve your business planning processes, ranging from consultancy to bespoke software development.

- **Process improvement consultancy**

Tessella can advise you how to improve the business processes that generate the inputs required for roadmapping. Benefits extend beyond optimizing business strategy, and can result in more efficient and cohesive project teams.

- **IT consultancy and software development**

Data for roadmapping comes from many sources and in many forms. Tessella provides strategies to simplify how these data are collected, and systems to store them safely.

Tessella has experience of developing applications suitable for distribution across large organizations. We can implement access rights and user roles, and make parts of the application available over an intranet or the worldwide web. Our software provides clear audit trails and change tracking so that the bases of decisions are recorded.

- **Roadmap tools**

Roadmap tools capture information on products, technologies, resources and markets and show linkages between these components of the roadmap. They can include components for data input, visualisation, analysis and optimization.

Tessella can provide solutions tailored to fit your specific needs, whether by writing add-ons to your existing software or developing a complete bespoke tool. We can build customized applications using existing, reusable decision analysis modules. Our experience includes:

- **SERAT: a roadmapping tool for the European Space Agency**

The Space Exploration Roadmap Analysis Tool (SERAT) analyses data on missions, capabilities and technologies, and displays roadmap network diagrams, and timelines for different mission programs. It allows the user to choose different development options and to specify the timescales and costs associated with these options.

- **Portmanto: pharmaceutical portfolio management software**

Tessella have also developed Portmanto, a pharmaceutical portfolio management application. Users enter costs, risks and projected sales values for projects, with a standard format and guidelines on data entry to help project teams prepare data on a consistent basis across the whole portfolio. Drag and drop interfaces are used to define decision-tree scenarios for projects. Analysis capabilities include calculation of Net Present Value (NPV) and Risk-Adjusted NPV (allowing for dependencies between projects), Monte Carlo sensitivity analysis, optimization of portfolio, and expected resource profiles.

Fast analysis allows the consequences of changes to be investigated and a new strategy devised quickly, giving significant competitive advantage. Rigorous treatment of uncertainties ensures that the analyst is fully aware of the accuracy of the forecasts.

Tessella plc 26 The Quadrant, Abingdon Science Park, Abingdon, Oxfordshire OX14 3YS, UK
T: +44 (0)1235 555511 | F: +44 (0)1235 553301 | E: info@tessella.com

Tessella Inc 233 Needham Street, Suite 300, Newton, MA 02464, USA
T: +1 617 454 1220 | F: +1 617 454 1001 | E: info@tessella.com



Tessella – successfully delivering IT and consulting services to world leaders in R&D, science and engineering.

For decades, Tessella has been successfully delivering IT and consulting services to world leaders in R&D, science, and engineering. Through the application of scientific methods and rigorous quality procedures, we enable clients in life sciences, energy, the public sector, and consumer industries to achieve a wide range of objectives, including, forecasting floods, developing fusion power, enhancing military sensor capability, increasing drug discovery and development efficiency, and reducing risk to health and the environment in the extraction and production of oil and gas. With offices in Europe and North America, global companies rely on Tessella for business critical assignments.

Copyright © Tessella plc 2009, all trademarks acknowledged. Issue: V1.R1.M0 | October 2009

