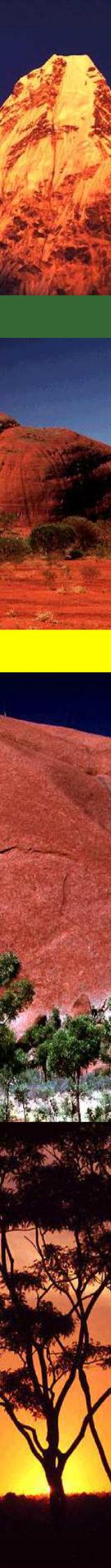


CASE STUDY FOLDER

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CASE STUDY

‘Business Workshops’ for the plastics industry

The task

Plastics processors in the UK have seen a migration of work to other countries. The continued success of the UK plastics processing industry depends on companies having both the management skills and attitudes required for success and a knowledge of the technology needed by the customer.

The industry has difficulty contacting the customer on ‘neutral ground’ to find out the basic requirements for success. Discussions normally relate to specific projects and it is difficult for processors to determine the fundamentals for success in a particular market.

What we did

Tangram located major UK and international customers for plastics products in key industries such as: rigid plastics packaging, medical products, furniture, computers, household products, automotive products, garden products, toys, mobile phones and office products.

Speakers from the selected customer sectors were invited to make a presentation on the needs of the sector and the methods of meeting these needs to an invited audience of plastics processors.

The presentations concentrated on the needs of the sector and the ways plastics processors could meet the needs and become more competitive.

Tangram made all the arrangements for the Workshops, facilitated the Workshops and produced a ‘Business Workshop Report’ on each sector presentation. Copies are available from the British Plastics Federation and are also available from the Tangram Technology website (www.tangram.co.uk).

The benefits

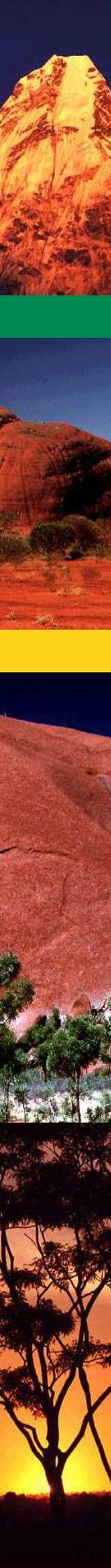
- Plastics processors had the opportunity to hear the views of major plastics users and to learn about the needs of the users in their specific industry sectors. More importantly the Workshops concentrated on solving the basic customer-supplier interactions rather than on concerns with specific projects.
- Customer companies had the opportunity to locate new suppliers for plastics products.
- The Business Workshop Reports provide an accessible and permanent record of the needs of the various sectors.

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CASE STUDY

Implementation of product development systems

The task

Product development is a key to continued success in any business. Without continued product development any company will fall behind the market needs and sales will fall. This is particularly true in new and fast moving markets where there are many competing companies.

The temptation is to start many product developments and overload the development process. The result is that critical projects are either delayed or are never completed. In business, as well as in life, success is dictated by what you finish, not by what you start.

What we did

Tangram developed and implemented tightly controlled new product development systems. These systems prevented overload of the product development resources and system by controlling the number of projects allowed in the system at any time.

A formal product development plan covering new products, product maintenance and service activities was developed to ensure close alignment with the overall business plan. This was used to develop products that met real customer needs rather than the 'latest urgent problem'.

Product sponsoring departments were allocated resources to be divided according to the priorities. New project needs required the deletion or removal of an existing project. The decision making discipline encouraged sponsoring departments to examine the real need for the projects and the associated costs.

The development department changed the focus to the completion of important projects rather than simply starting work on the 'next urgent thing'.

The benefits

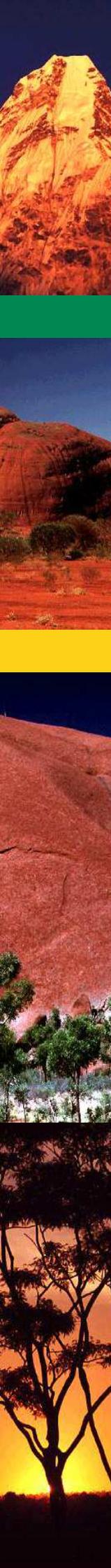
- Tight linkage of the product development process to the overall business plan
- Faster product development from clearly defined priorities.
- Rationalisation of the product development process to reduce costs.
- Actual completion of more projects in shorter timescales due to a greater focus on completion rather than on starting.
- Improved reputation of product development (internally and externally) area due to completed projects.
- Continued business success due to regular release of new products to the market.

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CASE STUDY

Development of wood plastics composite materials and product designs

The task

Wood plastic composites (WPCs) are growing in importance as materials in the UK and Europe. WPCs are a completely new range of materials that have yet to be fully investigated and commercialised.

These new hybrid composite materials have the best properties of wood and plastics at the price of conventional wood products. These are wood products that can also be extruded or injection moulded to form products that are immediately useable and are also rot and fungus resistant.

WPCs represent a new future for materials technology.

What we did

Tangram has been associated with WPCs for over 8 years, longer than any other Consulting Engineering company in the UK.

Tangram has developed considerable knowledge and expertise in this area through working with major companies on the development of WPC materials and products.

Tangram has worked with pure development companies as they license their innovative technology throughout the world.

Tangram has worked with start-up companies developing new technologies as part of their unique range of offers to the market.

Tangram has designed new products using WPCs to make the best use of the unique price - property relationship of these new materials.

Tangram has prepared market assessments for the future of WPCs in individual markets to enable clients to assess the possibilities of these new materials.

The benefits

- Definitive advice and knowledge transfer for rapid start-up.
- Materials formulation and processing consultancy for rapid start-up.
- Strategy development for penetration of specific sectors.
- Provision of specifications and arrangement of initial type testing to British and European product standards.
- Product design for specific sectors.
- Product design for window and door products.

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CASE STUDY

'Cost management in plastics processing'

The task

Plastics processing companies have focused on cost reduction as a method of remaining viable but they have focused on the wrong elements. Unfocused cost reduction is possible in the short term but it is ultimately fatal in the long term. True cost management takes a broader view than the traditional 'reduce labour costs' view of cost reduction - it involves looking at all the elements that contribute to costs in the company and reducing all these elements.

The result is a company structure and management that is both efficient in the use of resources and also 'works smarter' in all ways.

What we did

Tangram took a fresh view of cost management in plastics processing to find the basis for the real costs in the traditional plastics processing business. Too many businesses in the UK blame the migration of profitable work to other countries on 'lower labour costs'. This is a simplistic argument and is also wrong.

Most of the costs in plastics processing are not due to simple labour costs (and reducing these will have little or no effect on profitability but can affect the viability of the company) - the real costs are hidden in the overheads and ineffective practices that many businesses accept as normal.

It doesn't have to be this way.

Changing to new methods is difficult but is essential for survival.

Tangram produced a book (Cost Management in Plastic Processing: targets, techniques and tools - *Second Edition*. PID Books – 2007, ISBN 978-1-906479-00-8) detailing all of the changes required and giving clear step-by-step instructions for implementation.

Plastics companies throughout the UK are using the book as a template for revitalising their business.

The benefits

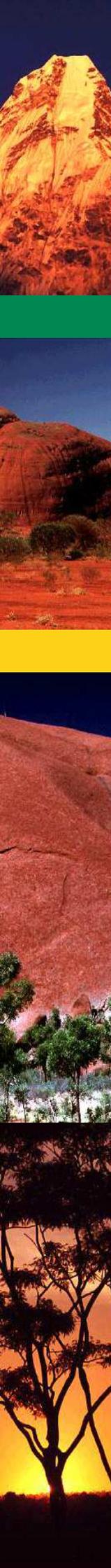
- A clear understanding of the elements making up the cost of plastics products.
- A fresh look at the process of cost management. This is not to be confused with the more common, less rewarding task and often ultimately fatal task of cost reduction.
- Provides clear models, guidelines, checklist and structures for achieving real and permanent control of cost in plastics processing.
- Presented in easily copied A3 format for each topic - for easy distribution and use throughout the company.

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CASE STUDY

'Plastics profile extrusion'

The task

Extrusion is one of the major methods of processing plastics both in terms of volume and value. Extrusion is also used as a preliminary mixing and plasticisation stage in most of the other plastics processing methods. Profile extrusion is often referred to as a 'black art' but the process is theoretically well developed. Since 1990 there have been many significant advances in understanding the process and using this improved understanding to improve process performance in terms of both quality and throughput speed. Despite this, the advances are not well known and there is a need to inform the industry of these.

What we did

Tangram Technology was commissioned by RAPRA Technology to produce a revised and thoroughly updated RAPRA Review Report on 'Plastics Profile Extrusion'.

This report covers all the changes in the industry, concentrating on the screw extrusion process where the extruded product has a constant cross-section.

Products and applications are reviewed in detail and major advances such as computer control, materials and speed and size issues are also covered. For general extruded products the issues are as much those of flexibility and control as those of significant new technological advances.

Topics include: Single and twin screw extruders; Die and calibrator design; Downstream equipment; Controls, monitoring and fault finding; Modelling and simulation; Materials; Products; Environmental issues.

Applications described cover: general profiles, pipe and tubing, waste and rainwater goods, gas and water distribution pipes, domestic water supply, corrugated pipe, foamed core and skinned pipes.

The benefits

- The basics of profile extrusion and the screw extruder are clearly and simply explained.
- The detailed technology basis for the development of the wide variety of extruder types is clearly explained.
- The latest technology in the field is reviewed and put into context within the whole field.
- Profile extruders have a rapid reference to the latest technology in the field and can seek additional information from the over 500 references and abstracts referred to in the report.

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CASE STUDY

'Energy in plastics processing - a practical guide'



The task

Tangram was commissioned by the Energy Efficiency Best Practice Programme (now Action Energy) to prepare a review guide for improving energy efficiency in all types of plastics processing. Action Energy had some specific guides for processes but there was no general and easily accessible practical guide to improving energy efficiency for the complete plastics processing industry. The industry needed a guide to the general techniques of energy efficiency, to the main processes used for plastics and also to the major ancillary services such as motors and compressed air.



What we did

Tangram wrote and compiled a review of the complete range of energy usage in plastics processing.

The guide starts at the very basic level of how to understand the energy usage on a plastics processing site and how to determine the answers to the basic questions of where, when, why and how energy is being used. Practical measures in the areas of motivation and training, basic machine usage and setting, and performance recording are covered for all the main processes. Practical measures for reducing energy use in utilities such as water, compressed air and general building services are covered with special emphasis on the needs of plastics processors. The absolute cost of energy can also be reduced by improved energy purchasing and the guide includes measures on how to purchase energy in the most effective way.

Tangram produced all the artwork used in the publication and submitted 'camera-ready copy' to EEBPp for publication.

The benefits

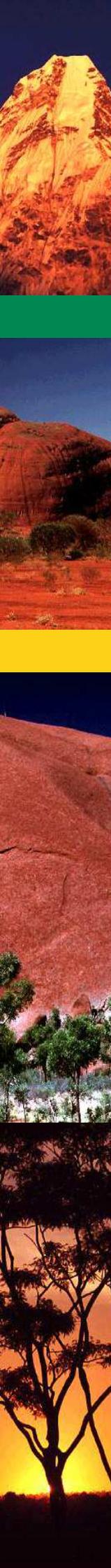
- Clear layout and information for the plastics processing industry.
- All types of plastics processors have an easy single point of reference for energy efficiency information covering not only the major processes but also the basics, the utilities usage and purchasing of energy.
- The book provides a 'signposting' guide to other Action energy Resources in plastics processing and general energy efficiency.
- Plastics processors can considerably reduce not only their total energy consumption but also their absolute energy cost by carrying out the practical tips given in the publication.

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CASE STUDY

Benchmarking energy use in plastics processing

The task

Improving performance in any area of business requires targets for improvement to quantify the gains and target the efforts.

Energy efficiency is no different and the plastics processing industry needed benchmarks for the industry performance to provide the targets. Despite this, the available information was old and not relevant to the industry. Tangram was commissioned by the Energy Efficiency Best Practice Programme (now Action Energy) to prepare and review updated benchmarking information for the plastics processing industry.

What we did

Tangram obtained updated production volumes and related energy consumption information for a range of plastics processors throughout the UK.

The information was treated to remove specific company information and analysed to provide general industry benchmarks on energy consumption.

The information was structured to allow a company of any size to calculate the relevant benchmark for the relevant process and to then compare their performance to the average UK company.

The publications included check lists for calculating the Specific Energy Consumption (SEC) as a benchmark for the process and tips for reducing the SEC to improve energy efficiency.

Tangram produced all the artwork used in the publication and submitted 'camera-ready copy' to Action Energy for publication.

The benefits

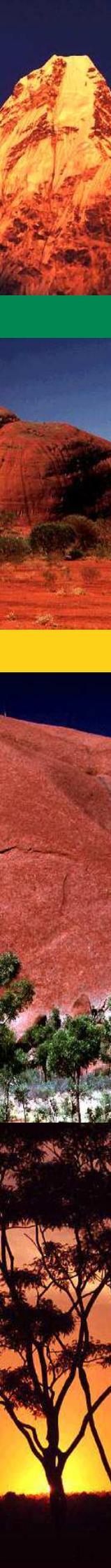
- Clear layout and information for the plastics processing industry.
- Plastics processors have a simple method for benchmarking their energy efficiency against that of other similar processors in the UK.
- Processors are provided with a structured method for calculating the SEC benchmark for their specific site.
- Processors are given a range of tips for improvement of the SEC benchmark.

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CASE STUDY

Training for effective project management

The task

Tangram was commissioned by a major plastics processor to train the design staff in project management techniques. The company is well known for specific proprietary technologies and the design team was under pressure to use these in a variety of applications in other areas.

The company was concerned that the management of projects was failing and that completed projects were not being delivered to the market place at the correct time or to the predicted budget.

What we did

Tangram developed a personalised training programme in 'Effective Project Management' for the Design Department. The training concentrated on how to specify a project for easy completion, how to plan a project for completion, how to report on project progress and how to assess the benefits on completion of the project. The programme was designed to be both interactive and practical to the designers.

This 2-day training programme was exceptionally effective for the Design Department. It focused their efforts and rapidly improved performance in all the Department activities.

This visible and substantial improvement led the company to request the roll-out of a similar programme for the complete company. Over the next 6 months the 'Effective Project Management' programme was delivered to all managers in the company (including all sales and marketing staff).

All training materials were developed by Tangram.

The complete programme was delivered by Tangram at the company's premises.

The benefits

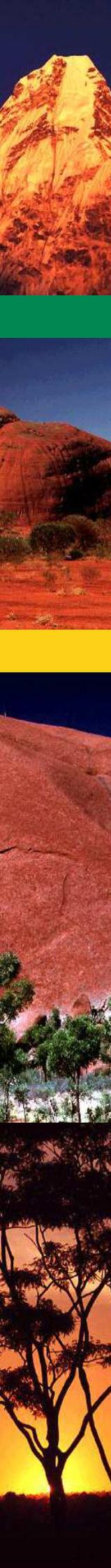
- The management of projects in the Design Department rapidly became much more formal and focused on delivering specified results.
- A backlog of projects in the Design Department was rapidly cleared and time made available for new ventures and technology transfer into other areas.
- All management level staff used the project management techniques to improve their focus on valuable and deliverable outputs.
- The whole company became much more 'project' and results driven with a resulting increase in success and profits.

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CASE STUDY

Expert witness reports for colour changes in PVC-U

The task

Plastics materials often change colour after external weathering but in most cases this colour change is predictable and the basic cause is well understood. Over the past 20 years the UK and continental PVC-U window industry has found a new type of colour change ('pinking') that is not well understood but which has appeared in significant numbers of products. This has caused significant financial losses for some installation and manufacturing companies.

Tangram has acted for numerous companies in the area of pinking, both to understand the process and to resolve complaints and legal actions.

What we did

Tangram first became involved with 'pinking' in 1992 when 'pinking' was being sporadically seen in window installations but was not generally thought to be a severe concern for the window industry.

Since then pinking has become a major concern for some systems suppliers and their customers. Tangram has worked with major systems suppliers, window fabricators and installers to resolve concerns and provide expert witness services for legal actions.

There are few independent witnesses with knowledge of this concern. Most of the experts are already employed by suppliers and processors and will not become involved in legal action because they are already involved in action or fear exposing themselves to further action. This makes it difficult for any company to find independent advice.

Tangram has provided the expert advice on whether to proceed with a claim or not. We are selective in the cases we will become involved with and our record to date is that we have won every case that we have accepted.

The benefits

- Concise advice on whether to proceed with a case or not.
- Unblemished record of success with accepted cases.
- Concise and authoritative information on the causes pinking.
- Independent advice for installers, fabricators and systems suppliers involved in legal action on this topic.
- Dispute resolution for installers, fabricators and systems suppliers involved in legal action on this topic.

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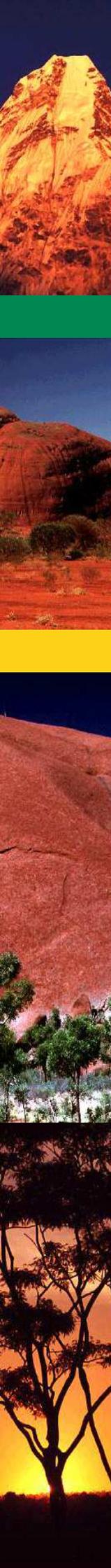
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CASE STUDY

Training and implementation of improved production management systems

The task

Production management is a rapidly changing area. Many of the skills learnt over the past 20 years are rapidly becoming redundant as issues such as JIT, ERP, SPC, Poke Yoke and all the other TLAs (Three Letter Acronyms) and Japanese words become more familiar.

There is a need to train staff to operate these new concepts, to implement the radical changes necessary and to set up the measurement systems to ensure that the changes brought about are permanent.

What we did

Tangram has been commissioned by several plastics processors to improve their production management system and it's effectiveness.

The Tangram approach centres on an initial strategic assessment of the business and how effectively the production management system meets the strategic needs of the business. The critical need is often as much for staff training in the new production management systems as well as the implementation of the systems. Staff need to see the benefits for both the company and themselves to become fully involved in the production management improvement process.

Tangram believes in full staff involvement in the implementation of the new production management systems. The necessary changes cannot be implemented by 'edict from above' and a committed attitude from the staff makes the changes easy to implement and operate in the future.

This approach meets the needs of major customers and has resulted in reduced WIP, faster cycle times and improved factory responsiveness to customer orders.

The benefits

- Improved staff commitment to the change process.
- Improved staff morale through involvement in the changes.
- Reduced WIP in production area.
- Improved cash flow in the business from WIP reductions
- Reduced space needed for production from WIP reductions
- Reduced cycle time for production.
- Improved customer responsiveness from reduced cycle time.

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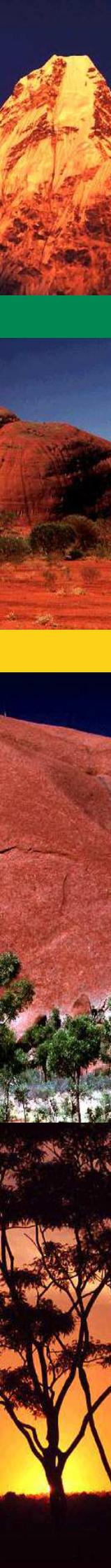
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CASE STUDY

New product design, assessment and review (Plastics)

The task

New product design in plastics is often centred on the ‘old design in metals’ (with minor changes made to allow the use of plastics). This misses out on the potential benefits of combining functions and operations in plastic components.

Tangram has been commissioned by design companies and customers to carry out new product design, assessment and review to ensure that designs utilise the potential benefits of the polymers and the forming processes. As product designers for over 20 years, Tangram has unique experience in developing designs for polymers to maximise the benefits.

What we did

Tangram has been commissioned by design houses and manufacturers to carry out new product design, assessment and review.

The service can be as simple as a final review of an existing or new design to validate that the designer has chosen and used the materials properly. This can take the form of a low cost design assessment and review taking 1 to 2 days for many components. Many designers find this useful as a final validation of the design.

Alternatively, Tangram can carry out the full product design from the basic Product Design Specification through to final product design. Using our unrivalled contacts in the plastics industry we can produce full design drawings, product visualisation services and full tooling drawings for tooling production.

Tangram can also assist clients to specify production methods and locate suitable polymer processors for final series production of the product if required.

These services have allowed customers to ensure that materials have been chosen and used correctly and that designs meet the customers requirements for the minimum cost.

The benefits

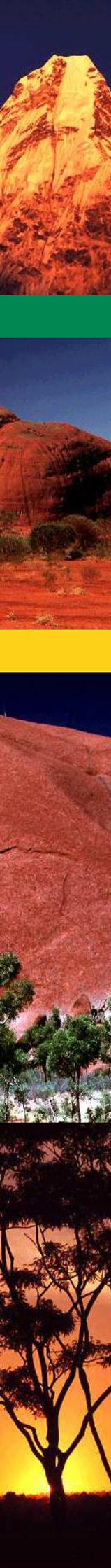
- Low-cost design and materials selection validation service.
- Practical approach to design and manufacturing assessment.
- Allows clients to achieve the best results for materials substitution exercises through combining functions and eliminating operations.
- One-stop shop for plastics product design services.
- Consistent interface with designers and customers.

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CASE STUDY

Preparation of expert reports on technology status

The task

Polymer processing is a rapidly changing field and the processes and materials available increase on a daily basis.

Customers often require an independent assessment of the developing technologies and the benefits they can bring to companies and customers.

Tangram has been contracted to assess new technologies and developments in polymer processing for customers who need an independent assessment of the markets and opportunities available.

What we did

Tangram Technology has been commissioned by clients in the area of polymer processing and also by user companies interested in new material or process development.

The Tangram review reports provide an independent assessment of the new material or processing technology. Tangram has no interest in application of the material or technology and produces unbiased assessments of the new technologies available.

Tangram has access to all the major polymer information databases and can provide 'cutting edge' information on developments in most areas of polymers.

As specialists in materials and processing, Tangram acts as the 'technology translator' for companies who know that they should be considering new materials or processes but are not sure where to start to find the information or how to assess it or apply it once they have it.

Tangram is experienced in providing this 'translation' service and can provide technology status reports for senior management that are relevant, accurate and above all readable.

The benefits

- Technology translation for non-specialist directors and managers.
- Clear and concise assessment of the status of advances in technology and the effects of these on the operations of companies.
- Written in language that senior management can understand and act on, they are both comprehensive and comprehensible.
- Market and finance oriented approach to new technology giving clarity for decision-making in client companies.

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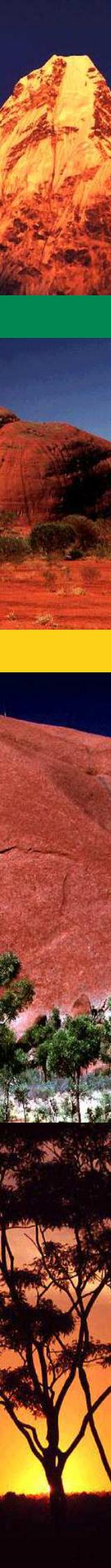
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CASE STUDY

Quality management systems (Plastics)

The task

Plastics processors are expert at injection moulding, extrusion or other plastics processing but often they do not have the skills necessary to document and implement quality management systems.

Tangram has been commissioned by plastics processors to document their quality and management systems to prove compliance with ISO 9001: 2000 or similar standards such as those of automotive or other customers.

What we did

Tangram Technology has been commissioned by plastics processors to document their quality management systems to meet ISO 9001: 2000. This requires a detailed knowledge of what is essential for compliance with the standard and what is also 'good practice'.

Many people think that this involves a complete set of new procedures but it doesn't. In most cases where a company has been operating for 3-5 years there is a quality system in operation but it is simply undocumented. Tangram does not believe in writing new procedures for ISO 9001: 2000 - new procedures are difficult to get operating and cause huge disruption. It is far more effective to document the systems that are invariably in existence and then to modify these to conform to the requirements of the standard. Only where there is a complete absence of a procedure required by the standard is a new procedure generated.

This 'minimalist' approach keeps disruption to a minimum and produces a system that complies with the requirements of the standard but is also easy to maintain and easy to update as necessary.

The benefits

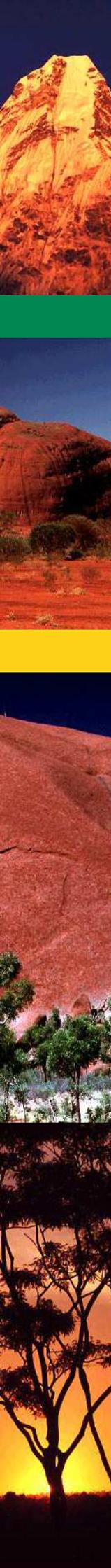
- A fixed price service for the implementation of quality systems for plastics processors.
- Tangram takes care of all documentation necessary for ISO 9001: 2000.
- All documents are installed on the fabricators computer system.
- Staff are trained in management of the system.
- The installation of the quality management system is as trouble-free as possible and most existing systems and procedures are kept in place.
- Achievement of ISO 9001: 2000 can be achieved in as little as 10 weeks.

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CASE STUDY

Environmental management systems (Plastics)

The task

Plastics processors are expert at injection moulding, extrusion or other plastics processing but often they do not have the skills necessary to document and implement environmental management systems.

Tangram has been commissioned by plastics processors to document their environmental management systems to prove compliance with ISO 14000 or similar standards such as those EMAS or other customers.

What we did

Tangram Technology has been commissioned by plastics processors to document their environmental management systems to meet ISO 14000. This requires a detailed knowledge of what is essential for compliance with the standard and what is also 'good practice'.

Many people think that this involves a complete set of 'environmental' procedures but it doesn't. In most cases the basic documentation of 'aspects and impacts' is the major task and this can be carried out quickly if the basics are familiar to the company.

Tangram does not believe in writing large numbers of new procedures for ISO 14000 - these are difficult to get operating and cause huge disruption. It is far more effective to document the systems that are in existence and to slightly modify these to conform to the requirements of the standard. Only where there is a complete absence of a procedure required by the standard is a new procedure generated.

This 'minimalist' approach keeps disruption to a minimum and produces a system that complies with the requirements of the standard but is also easy to maintain and easy to update as necessary.

The benefits

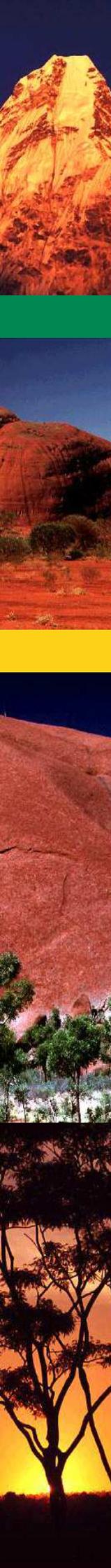
- A fixed price service for the implementation of environmental management systems for plastics processors
- Tangram takes care of all documentation necessary for ISO 14000.
- All documents are installed on the processors computer system.
- Staff are trained in management of the system.
- The installation of the system is as trouble-free as possible and most existing systems and procedures are kept in place.

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CASE STUDY

Reconstruction of Georgian industry

The task

The independent state of Georgia has one of the fastest growing economies of the ex-Soviet Union. Despite this, the industrial base has suffered from neglect, the infrastructure requires significant upgrading and many of the personnel do not have the skills necessary for the transition to a market based economy. Tangram was commissioned by the World Bank to assist a private Georgian company make the transition and to guide them in how to apply new methods of production and sales.

What we did

Tangram visited Tbilisi initially to investigate the market and start work with the company. Initial visits showed that the major concern was not simply with production but also with marketing and sales. Tangram helped the company to create a new marketing plan and to develop this with the staff. Tangram also helped the company to develop consumer finance initiatives to increase sales to consumers.

Production improvements required completely new machinery and Tangram advised on machinery selection and purchase to meet the market and production demands.

A return visit by a delegation from the Georgian company was arranged to the UK to view production methods and production management in the UK. This provided the managers with new ideas on production management to meet changing market needs. Master classes were provided to all the managers to equip them with the management skills necessary to operate modern factories and to meet rising consumer demands.

Tangram remains an advisor to the company for marketing, production and management issues as they arise.

The benefits

- The company now has a firm plan for the marketing efforts and direction necessary to increase sales.
- The company is developing consumer finance initiatives to increase sales of products.
- The company has purchased all new machinery to produce according to the new production methods.
- The company and staff have new ideas for production management and production skills.
- The company has made valuable contacts in the West for technology transfer and purchasing.

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CASE STUDY

Plastics Technical Information

The task

A major specialist plastics processor in the USA wanted to develop their technical reputation to raise their corporate profile. They decided to do this by issuing high quality technical information to a broad target audience of potential and current clients via a regular Newsletter. The Newsletter was to cover a range of plastics related issues and topics that were not directly related to the companies products but were of general interest to the clients.

What we did

Tangram worked with the company to produce a list of topics of interest to the potential readers. The topics covered the basic themes of materials properties, processing and applications and an editorial calendar was established to produce a coherent sequence of information for the reader.

Tangram worked with the company to update the editorial programme in response to reader requests and breaking news.

Tangram devised a format for the Newsletter that provided high quality text and graphics information and did not rely on a detailed technical background from the reader.

Tangram produced highly illustrated and graphic Newsletters of around 2500 words (including 1-page summaries of all Newsletters for internal staff) on diverse technical topics such as:

- High temperature plastics
- Thermal degradation in plastics
- Low temperature plastics
- Dielectric properties of plastics
- Flammability of plastics
- Friction and wear of plastics

The benefits

- The Newsletter is now a major part of the marketing strategy for the company.
- The Newsletter is increasing sales by establishing the company's reputation as a technically aware supplier in a variety of markets.
- The Newsletter is becoming a store of technical information for the company and its customers and has raised the level of technical knowledge in the company.
- The Newsletter has grown from a direct circulation of around 300 to over 3000 per Newsletter as more potential customers recognise the value of the information.

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CASE STUDY

'Energy management in plastics processing'



The task

The profits of most plastics processing companies have suffered significantly due to rising energy costs and in many companies energy is now the second largest variable cost. Despite this, there was no structured guidance available to plastics processors on how to reduce energy costs.

Whilst there was general information available it did not cover the specifics of plastics processing. The book was produced to provide this guidance for all types of plastics processors and draws on our experience of energy surveys at over 250 companies throughout the world.



What we did

Tangram has long been involved in reducing energy costs in plastics processing and strongly believes that it is essential for processors to start managing energy costs. Too many processors see energy costs as fixed and uncontrollable but the reality is that they are highly variable (with production volume) and easily controlled to reduce costs by up to 30%.

Most of the energy costs in plastics processing are in the plastics processing machines and starting work by reducing lighting is a common and fatal error. Companies need a structure to reduce costs in a logical way, in all areas and in all types of processing methods.

Tangram produced a book (Energy Management in Plastics Processing: targets, techniques and tools - PID Books – 2008, ISBN 978-1-906479-03-9) detailing all of the changes required and giving clear step-by-step instructions for implementation.

Plastics companies throughout the world are now using the book as a template for managing energy to reduce costs and carbon emissions.

The benefits

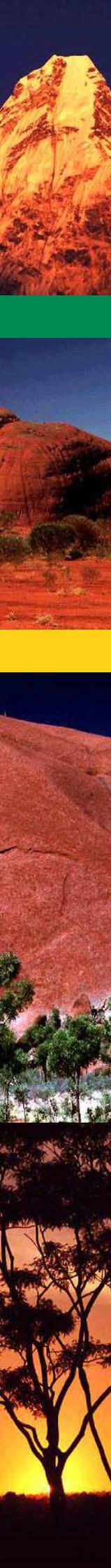
- A clear understanding of the basics of energy management in plastics processing.
- Benchmarks for most of major processes at both the site and machine level.
- Covers benchmarking, management, services, processing, operations, buildings and gives details of how to carry out site survey.
- Provides clear models, guidelines, checklists and structures for achieving real and permanent control of energy costs in plastics processing.
- Presented in easily copied A3 format for each topic - for easy distribution and use throughout the company.

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CASE STUDY

Quality management systems (Windows)

The task

Window fabricators are expert at manufacturing windows and have the necessary skills for this, the documentation and implementation of quality management systems is not a skill that is common.

Tangram has been commissioned by many window fabricators to document their quality and management systems to prove compliance with ISO 9001: 2000 or similar standards.

Tangram is responsible for all documentation through to final approval as a 'Kitemarked firm or to BBA Certification (whichever is required by the client).

What we did

Tangram Technology has been commissioned by many fabricators to document their quality management systems to meet ISO 9001: 2000. This requires a detailed knowledge of what is essential for compliance with the standard and what is 'good practice' in the window fabrication industry.

Many people think that this involves a complete set of new procedures but it doesn't. In most cases where a company has been operating for 3-5 years there is a quality system in operation but it is simply undocumented. Tangram does not believe in writing new procedures for ISO 9001: 2000 - new procedures are difficult to get operating and cause huge disruption. It is far more effective to document the systems that are invariably in existence and to then slightly modify these to conform to the requirements of the standard. Only where there is a complete absence of a procedure required by the standard is a new procedure generated.

This 'minimalist' approach keeps disruption to a minimum and produces a system that complies with the requirements of the standard but is also easy to maintain and easy to update as necessary.

The benefits

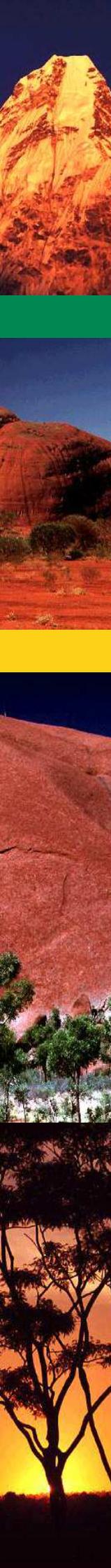
- Tangram takes care of all documentation necessary for ISO 9001: 2000.
- All documents are installed on the fabricators computer system.
- Staff are trained in system management.
- The installation of the quality management system is as trouble-free as possible and most existing systems and procedures are kept in place.
- Achievement of ISO 9001: 2000 or Kitemarking to BS 7412 or BBA Certification can be achieved in as little as 10 weeks.
- Updating service available for ISO9001:2000 transition.

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CASE STUDY

Environmental management systems (Windows)

The task

Window fabricators are expert at manufacturing windows and have the necessary skills for this but often they do not have the skills necessary to document and implement environmental management systems.

Tangram has been commissioned by window fabricators to document their environmental management systems to prove compliance with ISO 14000 or similar standards such as EMAS.

What we did

Tangram Technology has been commissioned by window fabricators to document their environmental management systems to meet ISO 14000. This requires a detailed knowledge of what is essential for compliance with the standard and what is also 'good practice'.

Many people think that this involves a complete set of 'environmental' procedures but it doesn't. In most cases the basic documentation of 'aspects and impacts' is the major task and this can be carried out quickly if the basics are familiar to the company.

Tangram does not believe in writing large numbers of new procedures for ISO 14000 - these are difficult to get operating and cause huge disruption. It is far more effective to document the systems that are in existence and to slightly modify these to conform to the requirements of the standard. Only where there is a complete absence of a procedure required by the standard is a new procedure generated.

This 'minimalist' approach keeps disruption to a minimum and produces a system that complies with the requirements of the standard but is also easy to maintain and easy to update as necessary.

The benefits

- A fixed price service for the implementation of environmental management systems for window fabricators.
- Tangram takes care of all documentation necessary for ISO 14000.
- All documents are installed on the processors computer system.
- Staff are trained in management of the system.
- The installation of the system is as trouble-free as possible and most existing systems and procedures are kept in place.

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CASE STUDY

Health and safety systems (Windows)



The task

The requirement for Health and Safety Management are increasing almost daily as new legislation is introduced. Window fabricators are expert at manufacturing windows but the documentation and implementation of effective Health and Safety systems is not a skill that is common. This particularly applies to the carrying out of risk assessments.

Tangram has been commissioned by many window fabricators to carry out risk assessment and to document their Health and Safety management systems to prove compliance with HSE requirements.



What we did

Tangram Technology has been commissioned by window fabricators to carry out risk assessments and to document their Health and Safety management systems to meet HSE requirements. This requires a detailed knowledge of what is essential for compliance and what is 'good practice' in the window fabrication industry.

Many people think that Health and Safety is an 'optional extra' but the penalties for failure to comply are both severe and personal. Managers can become personally liable for as much as £25,000 fines and up to 6 months in gaol - this is in addition to the possibilities of having the factory closed down while improvements are carried out. Health and Safety management is not optional. Good Health and Safety management is also good management and is simply a structured way of working to protect the investment made in staff.

Tangram does not believe in writing new procedures for HSE. We document the current processes and ensure that these comply with the requirements. This approach keeps disruption to a minimum and produces a system that complies with the requirements

The benefits

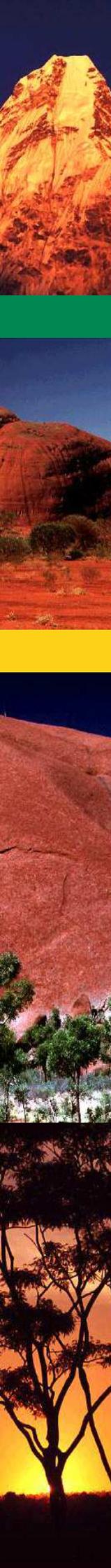
- Tangram takes care of all documentation necessary for the fabricator Health and safety management.
- All documents are installed on the fabricators computer system.
- Staff are trained in risk assessment and in the management of the system.
- The installation of the Health and Safety management system is as trouble-free as possible and most existing systems and procedures are kept in place.

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CASE STUDY

Production management systems (Windows)

The task

Production management is a rapidly changing area. Many of the skills learnt over the past 20 years are rapidly becoming redundant as issues such as JIT, ERP, SPC, Poke Yoke and all the other TLAs (Three Letter Acronyms) and Japanese words become more familiar.

There is a need to train staff to operate these new concepts, to implement the radical changes necessary and to set up the measurement systems to ensure that the changes brought about are permanent.

What we did

Tangram has been commissioned by window fabricators to improve their production management system and its effectiveness.

The Tangram approach centres on an initial strategic assessment of the business and how effectively the production management system meets the strategic needs of the business. The critical need is often as much for staff training in the new production management systems as well as the implementation of the systems. Staff need to see the benefits for both the company and themselves to become fully involved in the production management improvement process.

Tangram believes in full staff involvement in the implementation of the new production management systems. The necessary changes cannot be implemented by 'edict from above' and a committed attitude from the staff makes the changes easy to implement and operate in the future.

This approach meets the needs of major customers and has resulted in reduced WIP, faster cycle times and improved factory responsiveness to customer orders.

The benefits

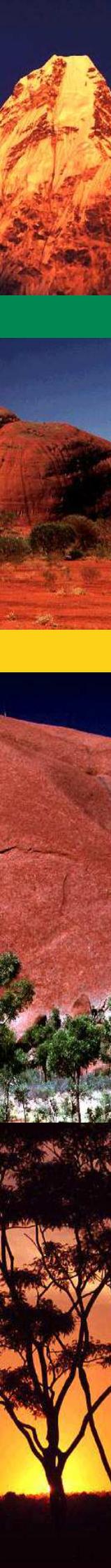
- Improved staff commitment to the change process.
- Improved staff morale through involvement in the changes.
- Reduced WIP in production area.
- Improved cash flow in the business from WIP reductions.
- Reduced space needed for production from WIP reductions.
- Reduced cycle time for production.
- Improved customer responsiveness from reduced cycle time.

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CASE STUDY

Business review and reorganisation

The task

A window manufacturing company had lost its way in terms of where it was going in the market. The owners become confused between development for its own sake and what they really needed out of the business. There was also a lack of strategic direction for the business and this was affecting both the business and the personal success of the owners.

The owners contacted Tangram for truly independent advice on strategy, marketing and production management.

What we did

The company had grown successfully from small beginnings but this was not controlled and the owners were concerned that growth was actually threatening the stability of the business.

Tangram offered an entirely unbiased assessment of the business and what could be done to improve it.

In conjunction with our legal and accounting partners, we initially reviewed the business and the needs of the owners.

Using these as a basis for progress we created a new strategy for the company to meet the needs of the business as well as those of the owners. This involved actually reducing the rate of growth to improve cash flow and reserves, creating agreed performance targets for the senior managers, introducing improved working methods and providing a strategy for improving the personal wealth of the owners by extracting cash from the business in appropriate ways.

We continue to advise the business on a regular basis to ensure that the strategy is being operated correctly and delivering the desired results.

The benefits

- A new strategic direction for the company.
- Improved personal wealth of the owners.
- Improved and reduced workload of the owners.
- Improved management structure.
- Improved production systems for greater production and delivery reliability.
- Systems for limiting the work inflow but maximising the return on investment.
- Controlled expansion of the business to meet the needs of the owners rather than the needs of other people.
- Consistent monitoring of the process to ensure continued success.

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CASE STUDY

Expert witness reports for window manufacture and installation (Windows)

The task

Window installations sometimes go wrong and sometimes the customer expectation of what they were going to receive is greater than can be delivered by any manufacturer or installer. When this happens there is a need for expert witness services to determine if the complaint is justified and to recommend or specify the remedial actions necessary.

Tangram has provided expert witness services for systems suppliers, manufacturers, installers and private clients in the area of window installation.

What we did

Tangram Technology has been commissioned by many clients to provide expert witness services. These can be either as a single joint expert (SJE) or as an independent expert for one of the parties. In either case Tangram can only accept cases as an 'officer of the court' - our first duty is to the court and not to the client.

An initial survey costs as little as £800 and provides an initial assessment of whether the manufacture and installation is of reasonable quality or not. This allows the parties to assess the relative merits of the case and if there is a reasonable case to be made.

Acceptance of a case only proceeds if the initial assessment indicates that a case can be made. On some projects the initial assessment is all that is required and the case can proceed using only this assessment. If further work is required to complete the case there will be additional charges.

Tangram reports meet the requirements of CPR 35 for accuracy and completeness.

Tangram will not accept commissions that do not have a reasonable chance of success. We have not yet lost a case that has been accepted after the initial assessment.

The benefits

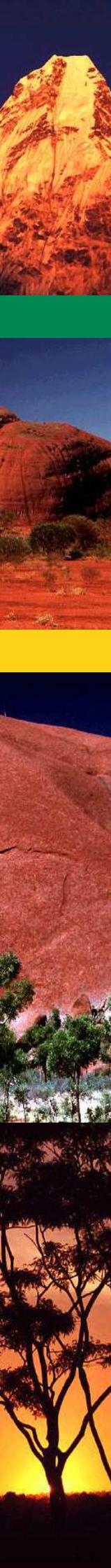
- A rapid assessment of the merits of the individual case. Tangram will not proceed with any case if there is no reasonable likelihood of the case being successful.
- Expert services from one of the most respected consultancies in the window area. Tangram staff took part in the drafting and writing of many of the standards for installation and surveying of windows and conservatories in the UK and have unrivalled knowledge of the requirements and what can be reasonably expected of window manufacturers and installers.
- Concise court-ready reporting for solicitors.

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CASE STUDY

Product designs in WPC materials (Windows)

The task

Wood plastic composites (WPCs) are growing in importance as materials in the UK and Europe. They are a completely new range of materials that have yet to be fully investigated and commercialised but which show particular advantages for window products (see Case Study P03)

Tangram was commissioned to produce product designs for window and doors systems manufactured from these new materials using our unique knowledge of both the material and the window and door market.

What we did

Tangram has been associated with WPCs for over 8 years, longer than any other Consulting Engineering company in the UK.

Tangram has developed considerable knowledge and expertise in this area through working with major companies on the development of WPC materials and products.

Tangram has designed window and door systems using WPCs to take into account Tangram's unique combination of knowledge of the window and door industry and the materials processing industries.

Tangram has prepared market assessments for the future of WPCs in the windows and doors market to enable clients to assess the possibilities of these new materials.

The benefits

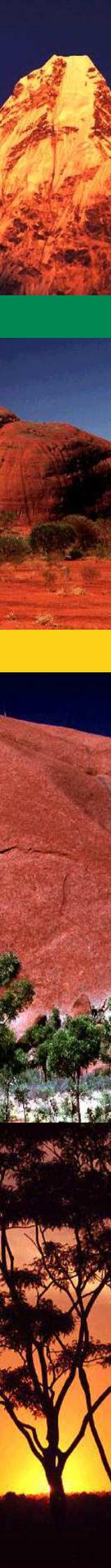
- Window and door system designs that meet the latest performance requirements for weathertightness and thermal properties.
- Window and door system designs that are tailored to the properties of WPCs.
- Expert advice and strategy development options on the window and door market for WPCs.
- Provision of specifications and arrangement of initial type testing to British and European product standards.

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CASE STUDY

New product design, assessment and review (Windows)

The task

Window and door technology is rapidly changing with new consumer demands and new regulations in many areas. Designers are often expert in their particular area but need an overview of the market and the other technologies that can impact on the success (or failure) of a product.

Tangram has been commissioned by customers to carry out new product design, assessment and review to ensure that designs meet the market needs. As product designers for over 20 years, Tangram has unique experience in developing designs for the window and door markets.

What we did

Tangram has been commissioned by systems suppliers and component manufacturers to carry out new product design, assessment and review.

Tangram has unique experience in all areas of the window business and can apply this to all types of design concepts.

Tangram has worked with systems suppliers on new product designs for window and door systems.

Tangram has worked with hardware suppliers on new product designs for handles, locking devices and reinforcement.

Tangram has worked with conservatory roof companies on new designs for components and roof systems.

The service can be a simple final low cost design review to validate the design or full product design from the basic Product Design Specification through to final product design.

Tangram has also assisted clients to specify production methods and to locate suitable processors for final series production of the product if required.

The benefits

- Low-cost design and materials selection validation service.
- Practical approach to design and manufacturing assessment.
- Clients receive an independent and confidential assessment of the viability of the product design.
- One-stop shop for product design services.
- Consistent interface with designers and customers.

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CASE STUDY

Energy efficient windows training

The task

The energy efficiency of windows varies with several physical properties. The current method of assessing performance relies mainly on the U-value but this is only one of the factors. Other factors such as Solar Heat Gain and Air Leakage also need to be included.

Tangram was commissioned by Energy Efficiency Best Practice in Housing to produce a training package for the windows industry to enable companies to carry out internal sales training on energy efficient windows.

What we did

Tangram produced a structured training package for the sales staff of windows companies to introduce them to the benefits of window energy rating in terms of improving customer choice and clarity of decision making.

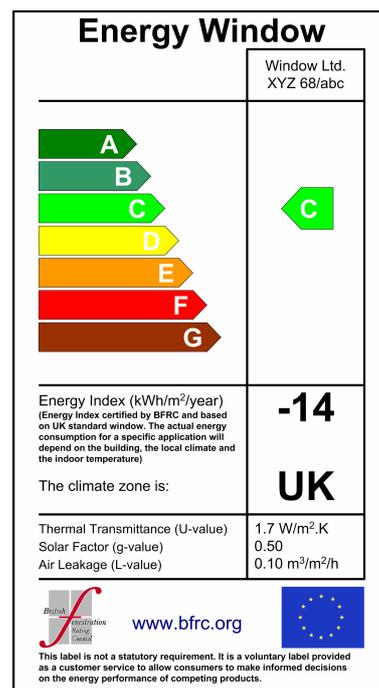
Tangram produced the training package to be highly interactive and to be especially relevant to direct sales staff.

Tangram tested the training packages by running training sessions with selected large direct sales glazing companies.

Tangram produced a final web-based training package that included all the resources necessary for internal trainers to run the training sessions, e.g. Overhead transparencies for small companies, PowerPoint shows for larger companies and full trainer and trainee notes packages.

The benefits

- Companies are able to deliver internal training to improve the sales methods and therefore sales of energy efficient windows.
- The sales of energy efficient windows are predicted to grow as people are more aware of the benefits of these products.



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CASE STUDY

Energy reduction surveys and guidance (Plastics processing)

The task

Energy is a significant cost for most plastics processing companies but too often it is regarded as a 'fixed' cost and little is done to reduce the cost. In reality the cost of energy is variable and there are many actions that can be taken to reduce the cost.

Tangram specialises in working with plastics processing companies to provide them with concrete guidance on how to reduce their energy costs.

What we did

Tangram visited each company for a single visit and carried out a pre-programmed visit taking in a variety of topics such as the main plastics processing technology, compressed air, lighting, heating, motor selection and general management and motivation of the staff.

Tangram produced a structured report for each company giving:

- The reductions possible if industry standard benchmarks were achieved,
- Actions to be taken to achieve the reductions and indications of the likely cost of achieving the reductions,
- An implementation timetable for achieving the reductions,
- Information on the available resources and further information for achieving further cost reductions.

Each visit was followed after 3-6 months (depending on the implementation programme) for a review discussion on the success of the implementation.

The benefits

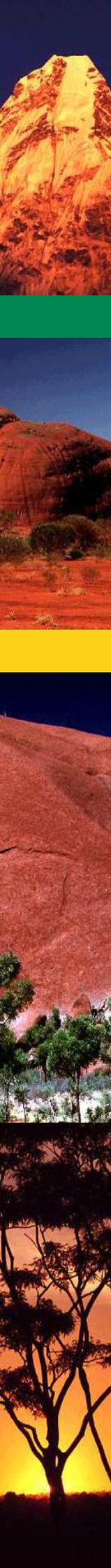
- Companies were given details of methods to achieve an average of 15% savings in the annual energy cost.
- Companies were shown a variety of simple methods of raising the profile of energy efficiency in the organisation.
- Companies achieved an average of 10% savings in the annual energy bill within 3-6 months of starting the programme. One company achieved an immediate £30,000 rebate from their energy suppliers and a £5000 reduction in their annual energy bill because of errors in tariff calculations.
- Companies had clear programmes for further future reductions in their energy costs (up to 10% in most cases).

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CASE STUDY

Energy management training (Plastics, rubber and ceramics)

The task

Many companies are not fully aware of the cost reduction possibilities of energy efficiency. They think that energy efficiency is only for 'green companies' and is not for them. The reality is that energy efficiency is simply good management to reduce costs.

Tangram was commissioned by Action Energy to produce training packages for the plastics, rubber and ceramics sectors to enable companies to carry out internal training on energy efficiency and to spread the message of the possible cost reductions throughout the company.

What we did

Tangram produced structured training packages for the 3 sectors (plastics, rubber and ceramics) to introduce all levels of staff to the benefits of energy efficiency in terms of reducing cost and environmental impact.

Tangram produced the training packages to be highly interactive and to be relevant to all levels of the organisation.

Tangram tested the training packages with large groups of companies via the leading industry organisations.

Tangram produced final training packages that included all the resources necessary for trainers to run the training sessions internally, e.g. Overhead transparencies for small companies, PowerPoint shows for larger companies and full trainer and trainee notes packages.

Tangram produced CD-based Training Packages and these were distributed via the industry organisations directly and also via their Internet web sites.

The benefits

- Companies in the 3 sectors have access to professionally produced training packages suitable for rolling out a structured training package to their employees.
- Companies in the 3 sectors have access to all the resources necessary to deliver the training in-house.
- Companies in the 3 sectors can start to achieve up to 15% savings in their energy costs (and benefit the environment). This is greater than the energy price increase as a result of the Climate Change Levy.
- The energy use in the 3 sectors will be decreased as a result of the training and both the companies and the environment will benefit.

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CASE STUDY

Energy Fact Sheet production (Plastics, rubber and ceramics)

The task

Companies wanting to start to reduce their energy costs need guidance on the major areas of energy use and the relative priorities for their efforts. The majority of information available is highly complex and companies need concise information for the decision making process.

Tangram was commissioned by Action Energy to produce short guides to energy efficiency in the 3 sectors to enable managers to rapidly assess the priorities for work.

What we did

Tangram accepted that managers and decision makers have a limited attention span for the topic of energy efficiency and that it is often seen as a peripheral activity. Tangram therefore generated Fact Sheets that were limited to a single page of A4.

Tangram designed and wrote the Fact Sheets to be read quickly in less than 10 minutes by busy managers.

Tangram designed and wrote the Fact Sheets to have an emphasis on taking simple and rapid action. Each Fact Sheet contains simple 'Tips' for action to reduce the cost of energy.

Tangram designed and wrote the Fact Sheets to be copied and widely distributed throughout the organisation to provide a common information source in the company.

Tangram designed and wrote the Fact Sheets to signpost further resources available from Action Energy.

Tangram arranged for publication of the Fact Sheets in the appropriate journal for dissemination to the largest audience greatest possible.

The benefits

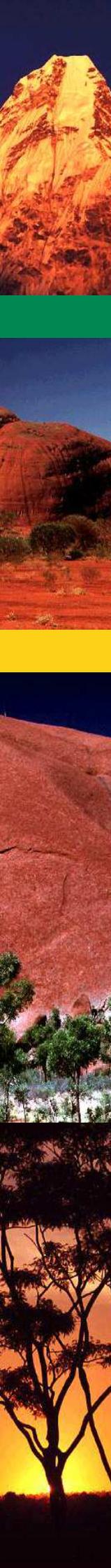
- The basics of energy efficiency for each sector are contained in 8 single page A4 Fact Sheets.
- Managers and decision makers can easily and quickly scan the Fact Sheets for simple hints and tips to reduce energy costs.
- Managers can use the Fact Sheets to provide a common language throughout the company.
- Managers can use the Fact Sheets as a prompt for action within the company.
- Managers can use the Fact Sheets to obtain further information and use this to generate further cost savings.

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CASE STUDY

Waste minimisation surveys and waste reduction guidance (Plastics processing)

The task

Waste is a significant cost for most plastics processing companies but too often it is regarded as simply the 'cost of the skips' whereas it is really the cost of what is in them.

Tangram was commissioned by Envirowise to carry out waste minimisation surveys for plastics processing companies and to provide them with concrete guidance on how to reduce the 'cost of waste' and the environmental impact of their waste.

What we did

Tangram visited each company for a single visit and carried out a pre-programmed visit taking in a variety of topics such as waste in the main plastics processing technology through raw material losses, waste in packaging usage, waste in water usage, waste in office activities, waste in product losses and general management and motivation of the staff.

Tangram produced a structured report for each company giving:

- The possible reduction in the cost of waste if standard industry benchmarks for waste were achieved,
- Actions to be taken to achieve the reductions and indications of the likely cost of achieving the reductions,
- An implementation timetable for achieving the reductions,
- Information on the available resources and further information for achieving further cost reductions.

Each visit was followed up after 3-6 months (depending on the implementation programme) for a review discussion on the success of the implementation.

The benefits

- Companies were given details of methods to achieve an average of 25% savings in the annual cost of waste.
- Companies were shown a variety of simple methods of raising the profile of waste minimisation in the organisation.
- Companies achieved an average of 10% savings in the annual cost of waste within 3-6 months of starting the programme.
- Companies had clear programmes for further future reductions in their cost of waste (up to 10% in most cases).

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CASE STUDY

Waste minimisation surveys and waste reduction guidance (Glass processing)

The task

Waste is a significant cost in glass processing but too often it is regarded as simply the 'cost of the skips' whereas it is really the cost of what is in them.

Tangram was commissioned by Envirowise to carry out waste minimisation surveys for several glass processing companies and to provide them with concrete guidance on how to reduce the 'cost of waste' and the environmental impact of their waste.

What we did

Tangram visited each company for a single visit and carried out a pre-programmed visit taking in a variety of topics such as waste in the main glass processing technology through raw material losses, waste in packaging usage, waste in water usage, waste in office activities, waste in product losses and general management and motivation of the staff.

Tangram produced a structured report for each company giving:

- The possible reduction in the cost of waste if standard industry benchmarks for waste were achieved,
- Actions to be taken to achieve the reductions and indications of the likely cost of achieving the reductions,
- An implementation timetable for achieving the reductions,
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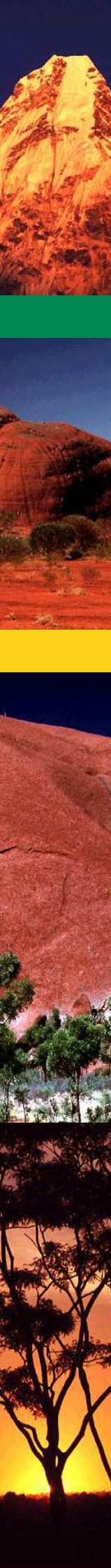
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CASE STUDY

Waste minimisation training (Plastics processing)

The task

Envirowise is a government programme to encourage the use of waste minimisation techniques in industry for improved profits and environmental performance.

Tangram was commissioned to develop a series of structured training workshops on waste minimisation and resource efficiency in the plastics industry. The task was to develop training materials that could be used with little preparation by companies at all levels of the staff.

What we did

Four 1 hour Workshops were developed to cover all management levels in the plastics industry. The levels targeted were: Directors, Senior Managers, Line Supervisors and Production Operators.

A consistent message was developed for all the target groups so that all the groups had a common language and understanding of the basics of waste minimisation and resource efficiency.

Training and reference material was developed to be very specifically targeted to the motivation needs of the target groups.

Workshops were developed and tested in partnership with selected plastics industry partners to ensure that the materials were directly relevant to industry.

Trial Workshops were carried out in industry with validate the materials and the training method.

All training material was prepared and produced in print ready Adobe Acrobat format.

The benefits

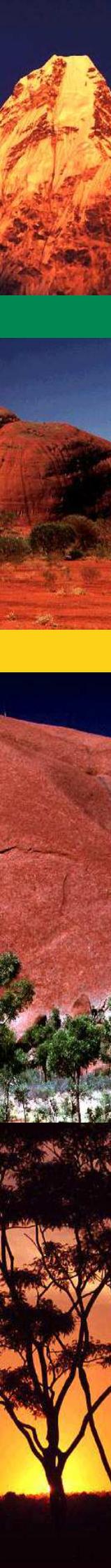
- Plastics processing companies can reduce their 'Cost of Waste' by implementing the series of training programmes.
- Training programmes are directly targeted at the various levels of staff in the industry.
- Trainers have access to all the resources necessary for training across the complete company.
- Plastics processing companies have access to a proven and structured series of easy to deploy training packages in the area of waste minimisation and resource efficiency.

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CASE STUDY

Waste minimisation training (Glass processing)

The task

Envirowise is a government programme to encourage the use of waste minimisation techniques in industry for improved profits and environmental performance.

Tangram was commissioned to develop and present a series of training workshops on waste minimisation and resource efficiency in the glass industry. The task was to develop and deliver the training to a variety of companies in the glass processing sector.

What we did

Tangram arranged with the Glass and Glazing Federation (the trade association for the glass processing sector) to deliver Workshops and presentations on waste minimisation at the relevant GGF Regional Meetings.

Tangram delivered 5 1 hour Workshops at GGF Regional Meetings to a range of management levels in the glass processing industry. The presentations covered all aspects of waste minimisation in the glass processing industry from glass optimisation during cutting to the minimisation of packaging use both in the delivery of raw materials and in the delivery of finished products.

The basis of the Workshops was a series of 1 page A4 Fact Sheets on waste minimisation in glass processing developed by Tangram for the industry. The Fact Sheets All delegates were

All training material was prepared and produced in print ready Adobe Acrobat format.

The benefits

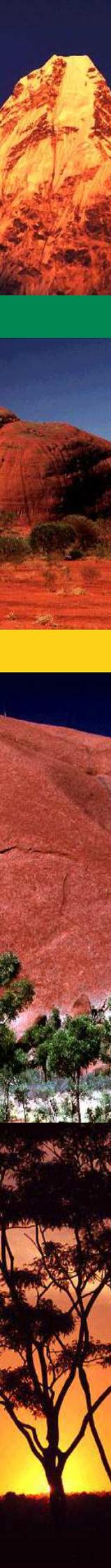
- Glass processing companies can reduce their 'Cost of Waste' by implementing the outputs of the series of training programmes.
- Training programmes are directly targeted at the various levels of staff in the industry.
- Trainers have access to all the resources necessary for training across the complete company.
- Glass processing companies have access to a proven training resource for reducing waste and increasing resource efficiency.

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CASE STUDY

Resource efficiency (Plastics processing)

The task

Envirowise is a government programme to encourage the use of waste minimisation techniques in industry for improved profits and environmental performance.

Tangram was commissioned to promote and publicise the concept of Resource Efficiency for the plastics industry. Resource Efficiency is a broader concept than waste minimisation and includes the idea of Cleaner Design to minimise the use of resources in all phases of the product life-cycle, e.g. manufacture, use, end-of-life and disposal.

What we did

Tangram devised a coherent 'global message' for the plastics industry that related Cleaner Design to the complete product life-cycle and then related this to the potential for cost reduction and management by producers.

Tangram translated the global message into a 'Route Map for Action' by the plastics processing industry that provided concrete guidance on how to implement the route map to reduce costs.

The global message and route map were first presented to the industry at the major trade exhibition (Interplas).

Tangram produced a series of articles and guidance sheets on the uses of the route map and these are to be published in one of the leading plastics and rubber trade journals.

The benefits

- Plastics processing companies were presented with clear and unambiguous guidance on how to achieve significant cost reductions in their business.
- Plastics processing companies were presented with a route map for reducing their impact on the environment.
- The profile of resource efficiency as a vital issue was raised considerably in the plastics processing industry.

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CASE STUDY

Training manuals and documentation for Internet search engine

The task

A major Internet search engine development company produced a new product for specialist web searches using programmable 'robots' to crawl the web for information.

The programmers needed training and reference materials to instruct users in the operation of the systems and also an independent view of the operation of the systems from the users perspective.

What we did

Tangram reviewed the complete user interface and operation for functionality and produced a series of recommendations for improvements to the user interface.

Tangram recommended additional functionality for the system that made it easier for the user to find the information that they needed.

Tangram reviewed the complete documentation of the system (previously available only in 'programmer speak').

Tangram produced a 'User Manual' for new users, an 'Advanced Manual' for higher level users and a 'Reference Manual' for advanced users.

Tangram produced a user training package for initial training of users in the operation of the system.

Tangram produced all manuals in Acrobat format and in html format for access via the Internet.

The benefits

- The user interface became more consistent and cleaner throughout the series of user interfaces.
- The system became easier to use and produced more relevant information.
- The purchasers of the system had a consistent and easily accessible series of manuals providing their users with the information that they needed in language that they could understand.
- The company was able to offer value-added training to purchasers of the system.

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CASE STUDY

Training manuals and documentation for Internet auction software

The task

A major software company developed Internet auction software designed to enable on-line and real time auctions to be carried out.

The software was to be deployed across multiple sites for internal Internet auctions with multiple users who used the system regularly.

The software was also to be deployed across multiple sites for external auctions where users were unfamiliar with the system.

There was a need to develop user documentation for the auction operators and also for both sets of users.

What we did

Tangram reviewed the system operation and created two distinct user interfaces for the two distinct user needs and skills. The user interfaces became distinct but were consistent and tailored to the user's needs.

Tangram also produced a simplified auction operator interface to make auction operation (as opposed to auction bidding) easier.

Tangram reviewed the complete documentation of the system (previously available only in 'programmer speak').

Tangram produced an 'Auction Operator Manual' to aid and simplify the operation of auctions.

Tangram produced a 'Regular User Manual' and a 'New User Manual' for the two user groups to make it easier for the users to find the information that they needed.

Tangram produced all manuals in Acrobat format and in html format for access via the Internet.

The benefits

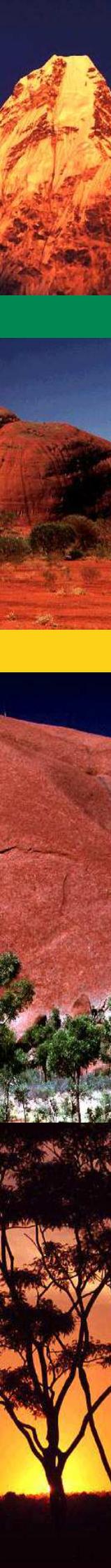
- The user interface became more relevant to the individual user's needs and also more consistent throughout the series of user interfaces.
- The auction operating system became easier to use for the auction operator.
- The auction system became easier to use for the two levels of auction bidders.
- The auction system could incorporate the Manuals in the system to provide users with easy access to help and information.

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CASE STUDY

Web site creation, authoring and management

The task

A major company had developed their web site but found that web traffic was not repeated and that users were unable to find the required information easily and were not returning to the site on a regular basis.

Tangram was commissioned to review the site, develop the materials in the site and improve customer satisfaction with the site.

What we did

Some web sites are simply 'brochures on the web' and offer little additional information or added value to the visitor. Tangram took the view that the clients site had to offer the visitor more than this.

Tangram reviewed the site design, structure and content.

Tangram reviewed and modified the site design to make the user interface faster and easier to navigate.

Tangram reviewed and modified the site structure to make user navigation faster and easier.

Tangram produced substantial content for the web site to improve the visitor experience and to offer the visitor more than simple 'eye candy' that did not add to their knowledge.

Tangram established systems for generating additional content inside the company to continuously extend the web site and keep it relevant and up-to-date.

The benefits

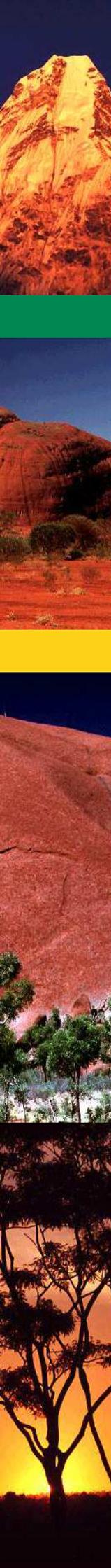
- Visitor numbers, particularly those of repeat visitors, increased substantially.
- The easier navigation and site design encouraged visitors stay on the site longer and to visit more pages on the site.
- Visitor satisfaction with the web site increased substantially.
- The web site gained rankings in all the major search engines.
- The company experienced increased sales from the web site due to the increased traffic and satisfaction.

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CASE STUDY

Contract project management for major projects

The task

A major EU development project involving 8 European countries needed project management over a 2 year period. Tangram was commissioned to manage the project on behalf of the project partners.

The project was complex and required not only internal co-ordination, management and information transfer but also management of the external relations with the potential external stakeholders.

What we did

Tangram managed the project for the EU partners and the EU DG-TREN

Tangram produced a complete initial project plan for the partners to agree.

Tangram produced a complete initial financial forecast for the partners to agree.

Tangram divided the complex project work into easy to manage tasks and phases that provided clarity of responsibility for activities and outputs.

Tangram managed the partners workload to ensure that these were equal and related to the payments to the partners.

Tangram managed the financial aspects of the project including payments to the project partners.

Tangram managed the web based project management to ensure that all project documents were available to all partners as soon as they were produced.

Tangram managed the publicity for the project to ensure that the EU requirements of dissemination were met.

The benefits

- Project requirements were clearly specified and complied with.
- Project partners were always clearly informed of their priorities and tasks.
- Project progress was transparent and clear, this enabled rectification action to be taken in time to prevent project slippage..
- External customers were kept informed of progress with the project.
- The project was completed in time and to budget. The project outputs met the initial work specification and the requirements of the EU.

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