progress through automation
Astech offer a novel, innovative approach to automation coupled with a well established, high quality manufacturing operation. Our automated systems are developed and manufactured under strict engineering and quality guidelines including ISO9001 and TickIT. Clients are assured of the highest quality solutions at all times.

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Astech Projects has developed bespoke automated solutions for many diverse industries. Examples include Pharmaceutical, Petrochemical, Consumer Health, Food, Medical, and Water Utilities. We are constantly searching for the next automation challenge where no standard automated solution exists.

Whether your goal is to increase throughputs, improve process consistency, reduce Health & Safety issues or simply to reduce staff workload Astech will work with you to develop an automated solution that meets your exact requirements.

If you have a process that is labour intensive and you feel it is difficult to automate we want to hear about it. Astech will provide a fresh approach to your automation requirements by utilising our extensive experience and knowledge of the latest automation techniques. We will work closely with you to develop the most cost effective solution.

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Automating a process is hardly ever simple. That’s why poorly managed automation projects suffer from delays and some are never completed. At Astech Projects, our business is concentrated purely on solving difficult automation problems. Using dedicated professional project managers we do it on schedule - time and time again. The Astech Automation Challenge covers all stages - from research to the manufacturing process. Challenge us with your automation problem and we will make it work where others have failed.
Astech has a proven 3 step methodology for the development and transfer of novel, innovative techniques into bespoke automated environments. The 3 step methodology delivers technologically advanced, robust automated systems that fulfil customer requirements and ensure customer satisfaction. The approach minimises risk and offers a formal approach to business justification and return on investment.

**STEP 1 - Client Consultation**

The ‘Client Consultation’ phase gathers, explores and analyses a customer’s requirements. These feed Astech’s ‘Optioneering’ process where automation requirements are segmented into discrete functions. Concepts are developed for each function together with a benefit-drawback assessment. An ‘Optioneering’ workshop, conducted in the presence of the customer finalises the ‘Optioneering’ process and determines the most beneficial concepts to be carried forward for 3D design modelling.

The output of this phase is a detailed report outlining the suggested automation concept, supported by 3D models and business justification. Animations can also be provided for complex solutions.

**STEP 2 - Proof of Concept Activities**

Bespoke automated systems often include novel functionality that has not been proven in previous applications. Structured proof of concept (PoC) exercises provide a cost effective means to minimise project risk and provide an assured level of confidence prior to committing high levels of expenditure. During PoC activities, novel, unproven functions are built in prototype form and tested to provide a measure of their performance.
The 3 step methodology has proved successful over many years and is transferable to any industry. This systematic approach is what differentiates Astech from its competitors. Whilst a consultant type organisation will assist during the ‘Client Consultation’ phase, the client may be left to source a manufacturer and a service organisation. Equally a manufacturer may not be able to assist during the ‘Client Consultation’ phase. Astech are unique in providing the complete package from requirements analysis, through to system delivery, support and maintenance.

**STEP 3 - Design, Manufacturing and Testing**

Once proof of concept activities are complete, the project is ‘de-risked’ and work can commence to design, manufacture and test the automated system. A detailed User Requirement Specification (URS) is produced, often developed by Astech in collaboration with the customer. The URS is an important document, allowing requirements to be traced through the entire project lifecycle, from design to acceptance testing.

For international companies with worldwide operations, Astech offer a commercial roll-out service that allows customers to harmonise automation across geographically diverse sites.

**STEP 3+ - Commercial Roll-Out and Harmonisation**

Astech has a dedicated team that handles commercial roll-out and mature product supply coupled with a robust maintenance and service model.

We install and maintain automated systems in the U.K., Europe and the U.S.
The pharmaceutical industry has embraced automation and the benefits are now widely recognised and highly valued. Automation releases staff from the repetitive tasks that once characterised old fashioned laboratory work to concentrate their skills on core research. Innovative systems have reduced the incidence of WR-ULD in staff and testing is now more reproducible. This results in data that is both reliable and repeatable, with a lower variance.

Astech are at the forefront of innovation in automated systems. We specialise in automated system development and supply ground breaking automated system solutions to the Drug Delivery Testing industry.

Our dedicated Drug Delivery Automation team focus on the development of new automated system solutions for testing drugs within the pharmaceutical industry. We have developed a comprehensive portfolio of products within Drug Delivery Automation. Examples include:

**Automated testing**

- Dose Content Uniformity
- Dose Through Use
- MDI Shake / Fire
- Waste Firing
- Emitted Weight
- Emittted Dose
- Particle Size Determination
- Blister Content Recovery
- Dose Counter Verification

**X Products**

Automated systems for regulatory testing of DPI & MDI inhaler devices.

- **Xelair**
  Ground breaking series of products for testing of Dose Content Uniformity of the Emitted Dose

- **Xelize**
  Advanced range of products for Particle Size Determination by Andersen Cascade Impactor

- **Xelox**
  Next generation series of products for Particle Size Determination by NGI

**Tablet Pro**

Automated workstation for content uniformity of solid dose pharmaceutical products

**Syringe Pro**

Automated workstation for content uniformity of injectable dosage form pharmaceutical products
pharmaceutical industry

Astech has been hugely successful in this industry having worked with the world’s largest pharmaceutical companies on the most challenging automation projects. Using our extensive nuclear industry experience Astech was able to seamlessly transfer its capabilities to meet the industry’s stringent regulatory requirements.
The latest developments in high throughput analysis increase the number of samples that can be screened in a defined time period. In order to keep up with high throughput analysers a high number of samples must be prepared within a short time frame.

Atech Projects has unique experience in developing high throughput sample preparation/formulation systems tailored to suit customer specific needs. These systems can automate the following tasks typically required for sample formulation:

- Liquid Handling
- Powder Handling
- Mixing/Agitation
- Heating/Reacting
- Cooling
- Separating
- Weighing
- Sampling

We have the expertise to integrate existing equipment and develop new automated components for areas that have historically been carried out manually.

Our automated high throughput formulation platforms allow the user to prepare a high number of samples in parallel and offer 24 hour operation.

Challenge Atech
Here at Atech Projects we are always on the look out for the next automation challenge. If there are any applications within your company that you feel could benefit from automation, and no standard solution exists, we would like to hear about it.
Most Astech solutions are supplied with a Windows based software application developed by our internal software engineers. Our solutions offer real-time parallel operation with true multi-tasking capabilities. All solutions are compliant with relevant specialist industry requirements.

Astech are one of a select group of companies holding ISO TickIT accreditation for software development.

Key features of our software solutions include:

**GUI & Control**
- Microsoft Windows look and feel for familiar use and operation.
- Astech’s dynamic robust and industry proven real time state-machine for reliable and continuous operation.
- Complex data entry and method generation facilities.
- User interface independence - distributed installations with GUI on one machine and control on another.
- Management information with real time view of control system.
- Data aware user interface controls with tool-top support for ease of data entry.
- Comprehensive maintenance and re-calibration utilities.
- Comprehensive diagnostic and status reporting facilities.
- Easy deployment and software installation.
- Intuitive help and tool tips for ease of use.

**Data Management**
- ORACLE / SQL server secure database applications.
- ORACLE / SQL server deployment for multi site operations.
- Seamless integration into customer LIMS/ERM.
- ERES (21 CFR Part 11 compliance).
- Cross platform interoperability with XML data generation.
- Flexible/operator definable data report facilities.
- Data aware user interface controls with verification and validation support for entry data integrity.
Astech are experts in real time control. We are fully conversant with the latest control hardware and software design techniques.

We have expertise with all the major hardware platforms including:

- Allen Bradley (Rockwell Automation)
- Siemens
- National Instruments
- VMEbus

These systems utilise industrial operating systems and can be used for real time control, robotic control, data capture, data analysis and scheduling.

Astech utilise a formal development life cycle for our systems with control software documentation including:

- Functional Design Specification (FDS)
- Software Design Specification (SDS)
- Module Source Code Reviews (MSCRs)
- Code Test Records (CTRs)
- Internal Acceptance Testing (INAT)
- Customer Acceptance Testing (CAT)
- Site Acceptance Testing (SAT)

We have developed complex control systems for a number of highly regulated industries including:

- Chemical
- Food
- Healthcare
- Medical
- Nuclear
- Petro-Chemical
- Pharmaceutical
- Water
Astech utilise proven project management methods to ensure that all projects, regardless of their size or type, follow the same structured approach. Our project management framework is based upon PRINCE 2 guidelines and integrates fully with our comprehensive quality management system.

- ISO-9001 accredited with ISO TickIT accreditation for the development of software
- Projects undertaken to GAMP guidelines and 21 CFR Part 11 standards
- Consultancy and advisory services provided to pharmaceutical Customers and product suppliers
- Our quality systems have been subjected to many external GAMP audits resulting in our selection as certified/preferred suppliers for specialist automated equipment
- In many cases, we are the only certified or preferred supplier retained by our Customers for this type of automation. This is indicative of our attention to detail and commitment to quality

World Leader Collaboration
Astech are proud to announce its strategic collaboration and membership of ABB Robotics’ partner network. ABB and Astech will work together on projects that are able to utilise the benefits of ABB’s extensive range of robotic products.

In addition ABB will lend their vast resources including customer service and technical support. ABB are a world leader in robotics and have partnered Astech as a world leader in bespoke robotics.